

AMERICAN INEMATOGRAPHER

FOR AMATEUR AND PROFESSIONAL PHOTOGRAPHERS

January

1939

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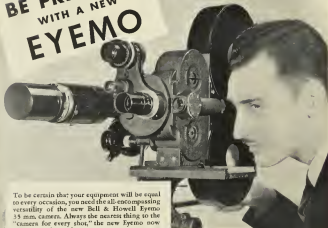
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The Front Cover

FACING the camera here are Bette Davis and Geraldine
Fitzgerald in Warner Brothers' "Dark Victory," in which
Miss Davis, George Brent shares the lead. It is a tense
moment in the story. Plainly it is felt by the onlookers. Ernest
Hall, A.S.C., squats by the camera, with Director Edmund
Goulding in dark jacket, Producer David Lewis next to Goulding,
and George Brent in slouch hat. Schuyler Crall exposed the still.

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The Agfa logo, featuring the word "Agfa" in a stylized, cursive script font, enclosed within a dark diamond-shaped border.

DURING recent years an increasing number of progressive cinematographers have found the photoelectric exposure meter an invaluable aid in the making of exterior scenes. While there are some who still prefer to ignore the use of such devices, those who have properly employed meters have proved that they remove the photographer of much of the burden of routine mechanical problems, giving him more time to express his artistic individuality, and assuring greater photographic uniformity in his scenes.

In theory, if meters are so helpful for exterior scenes, they should be even more useful for making interiors, for in lighting a set on the stage there is a much greater amount of routine detail to be attended to before individual artistic balancing of the lighting can be done.

In practice, however, there have been obstacles to following such a course, and very few cinematographers other than those working with Technicolor and using its special photometers have made use of meters on interior scenes.

Perhaps the chief objection to using meters for interiors has been the fact that in most scenes made under artificial light the mechanical question of exposure is secondary to the artistic question of lighting balance.

Overall Average

Meters, used in the conventional way—for reading reflected light—give an overall average reading in terms of exposure, and fail to give any indication as to the specific value of "key" light, or of balancing.

Therefore even the cinematographers who enthusiastically used meters outdoors pronounced them of very little, if any, use on the stage.

Some time ago, I formed the opinion that in a case like this, where theory and practice appear to differ, if the theory is sound there is likely to be something wrong with the practice.

This opinion was confirmed from observation of the way the Technicolor crews used meters successfully for interiors. As is well known, they use their meters not to measure reflected light, but to measure incident light, which is the important factor.

Therefore I experimented with several different types of meters during the course of several pictures, finally choosing the new General Electric meter as the most suitable.

With this choice made, I experimented further, using the meter for direct readings of the key light from the position of the subject. In this, I ignored the exposure calculator, and made daily checks between the meter readings expressed in foot-candles, and the printer light at which the scene printed.

I soon found that using a meter this way I could control my key light with sufficient accuracy to be able to predict quite closely what light a given scene would print on. Finally on my last

SECURING UNIFORM RESULTS WITH METERS ON INTERIORS

By DANIEL B. CLARK, A.S.C.

*Supervisor of Photography,
Twentieth Century-Fox Studio*

picture, "Five of a Kind," I used the meter religiously, with the result that the exposures were so consistent that the entire picture printed on only two printer lights.

Program of Experiments

When that production was completed I began a program of careful experiments to test the accuracy of the system and to devise means of checking the meters to assure their continued accuracy.

The first testing set-up consisted of an optical bench on which I could test the meter at a predetermined distance from a standard photoflood lamp. This showed I was on the right track, but also revealed two weaknesses in the testing method.

First, the optical bench was far too bulky to be carried around. Secondly, the photoflood globes have a short life, and as they are burned they blacken and their illuminating power falls off sharply.

Therefore a much more practical testing device has been devised. It is housed in a small case, and consists of a long-lived 6-volt automobile headlight globe powered by flashlight batteries. The light of this globe is directed through a ground glass diffusing screen to an aperture which fits the end of the

meter to be tested.

The current to the globe is controlled by a rheostat and indicated by a voltmeter. The characteristics of the globe are such that with a given voltage its light output is constant.

The method of testing is simply to apply the meter to the testing aperture, which excludes all external light. If, with the testing light off, the meter's needle indicator zero, and then, with the light on and adjusted to a predetermined voltage, the meter gives a predetermined indication, the meter is accurate.

Throughout these tests, the General Electric meter proved itself the most consistent available, and the most nearly free from individual day-to-day fluctuations. It has therefore become our standard.

Correct Characteristics

For our use the meter is fitted with a small metal aperture plate which is placed directly over the cell and inside the hood. This plate reduces the cell area exposed to give us just the correct angular and directional characteristics.

With these details attended to I assayed a series of practical tests to give final proof of the system's accuracy. The meter was instructed to a camera-

man who had not previously used the system. He was sent to a set one morning to make a series of tests—long shots, medium shots and close-ups. He was told, "Keep the meter reading on your keylight at such a point, and your scenes should print on light 12." When the rushes came through, every "take" had printed on the specified light.

The next day he returned to the same set and repeated the same tests. Again the scenes all printed on light 12.

The third day the same man was sent to a different set, with different people, to repeat the tests under entirely different conditions. As I recall it, the first tests were made on a light colored set, the second on a dark one. Again all takes printed on the desired printer light.

The fourth day, the cinematographer was sent to make some night exteriors with lights. Again the tests printed as desired.

For day exteriors, the problem became more complicated. As is well known, most studio cameramen prefer to keep their lenses at the widest aperture possible on rich scenes, to avoid excessive contrast. In consequence, most day exteriors print too close to the top of the scale for best print quality.

Printing Consistently

The logical course in this case seemed to be to use the meter for reflection readings, since average overall exposure was the main problem. Experiments showed us that it would be possible to use the meter's guidance to bring the exposure to a point where such scenes would print in a more satisfactory range.

Using a film speed setting of 32 instead of 24 for Eastman Super-X film, setting the camera shutter to 50 degrees, and thereafter following the meter's guidance as to diaphragm settings, we found that we could, without increasing contrast, bring our exposures to a point where the scenes printed consistently on light 14, which is much more satisfactory.

With the results of these tests, the studio executives felt justified in adding meters to our regular camera equipment. Every director of photography in the Twentieth Century-Fox Studio has available a General Electric meter, tested regularly and kept in condition by the studio.

I believe this is the first time a major studio has purchased light meters for its cinematographers, and Twentieth Century-Fox executives are to be congratulated for taking such a progressive step.

In practice, here is the way we use our meters. In the first place, we begin with an advantage in that the studio's laboratory works to a strict time-and-temperature system in developing negative, thus assuring that if exposure is consistent negative values and printing times will be equally consistent.

Most scenes are printed for face values, which in turn depend on the key light.

Measure Key Light

Since all meters are tested for accuracy and uniformity, we know from our experiments that if the key light is held to a given level and, of course, the lighting balance is correct, the scene will have to print on a given printing light. Mike Leash and his laboratory staff have found that with their methods the ideal results are had with a negative that prints in the middle of the scale.

So on the set we simply measure the key light to see that it gives us the meter reading we know means a negative which will print correctly. In time we may possibly calibrate our meters to read directly in terms of printer lights, rather than in foot-candles or terms of exposure.

The meter reading is taken from the plane in which the principal actor's face will be, with the meter pointed directly at the source of the key light.

From this point on, the director of photography lights his set in the usual manner. He has established his key light at the ideal intensity. Balancing the rest of the lighting and placing the modeling lighting is strictly his own affair. He can and should do this in his own way—with the individual technique which is his trade mark.

If he wants to see the meter to check up on any other phase of the lighting—say, for instance, to measure shadow (illumination—well and good; he may save some time and trouble by doing so. But the main purpose of the meter is to keep key light—upon which he balances all the rest of his lighting set-up—constant, unaffected by any variations including his own casual fatigue.

Full Originality

Using the meters in this manner does not take any of a cinematographer's artistic or technical originality away from him. If it did, I would be the first to object, for this originality is a cameraman's proudest professional possession—the thing which differentiates him from his fellows, and which makes him of value to his studio.

What the meter actually does is simply relieve the cinematographer of troublesome, detail routine, allowing him to give more thought to the really creative aspects of his work.

Coupled with this, the meter effects a real saving of time in lighting a

scene. Several of the Twentieth Century-Fox cameramen who have used the meters this way have found their work sped up by some two or three scenes a day, with no sacrifice of artistic quality and a definite increase in photographic consistency.

With the recent introduction of Eastman's Plus-X negative, the use of these meters has again proved its value. With this accurate guide to key light intensity none of the meter users had any misgivings about changing to the faster film.

Knowing the correct key light value for the older stock and the increase in speed of the faster stock all that is necessary is to drop the standard key light value use with Super-X to one suitable for use with a film of twice the speed.

This method of using meters is invaluable in instances where for any reason a cameraman must leave a production to be finished by another man. The problem of matching one man's work to another's is simplified by meter readings which automatically enable him to match his key light to that used by his predecessor.

Skeptic Converted

Another instance where the meters were of great value came recently when a cinematographer (one who had opposed meters) finished a Technicolor production and was immediately assigned to a monochrome film. He reluctantly accepted the suggestion that he start off his black-and-white shooting using a meter.

The first day's work found him greatly worried, for after many weeks of the high-intensity lighting necessary for color he felt he was underlighting when he followed the meter's guidance. The next day the rushes were perfect, printing uniformly on the correct printer light, and he became a convert to using meters.

While we believe that the system of using and coordinating meters as we do at the Twentieth Century-Fox Studio is a genuine forward step, no attempt is made or will be made to force their use by cameramen not convinced of their worth.

However, the record being made by those of the men who use the meters is daily becoming more convincing. It is not too much to predict that when all of our camera staff use and have become accustomed to the meters the whole studio's output, with the inevitable exception of special light effects, can be printed on a single light.

At any rate, we can expect greater consistency in the studio's cinematography during the next year, and since the cameramen are relieved of one piece of troublesome routine and have more opportunity to concentrate on the artistic side of their work, a finer grade of cinematography than this group has turned out before.

Dr. Ernst Schwarz, president of Agfa-Anso Corporation, announces a Christmas bonus affecting 3600 employees of the company and amounting \$125,000 is amount. All who have been in the service of the company since last July 1 are eligible to participate. The payments were made around December 15 and ranged from one-half week unto a half month, depending on length of service.

CINEMATECHNICAL progress during the past year has been eminently satisfactory. While the most sensational developments have of course been the tremendous strides made in film-speeds, a great number of less spectacular but important advances have been recorded in virtually every other phase of both standard and substandard film technique.

Methods

Several of the most noteworthy advances in cinematographic methods have naturally stemmed more or less directly from the introduction of faster films. Among them may be mentioned a marked trend toward the use of small lighting units.

Following the trend toward precision lighting noted last year, a decline in the use of the so-called "general" lighting units ("browns," "Rifles," "Banks," etc.) and an increased use of spotlighting equipment, particularly of the modern, Fresnel-lensed type, has continued and increased.

This has developed into a marked tendency to use larger numbers of small spotlighting units. It has, of course, been most notable among the users of the new super-fast films, but even the users of conventional emulsions, more conscious of film-speeds, have to a considerable extent followed suit.

Related to this in a measure but basically a logical development in its own right is the marked increase in the use of photoelectric light-measuring devices by studio cinematographers.

Up to the early part of the year the use of such instruments by motionpicture cinematographers was confined exclusively to exterior camerawork; but during the latter months, especially since the introduction of the General Electric meter, an increasing number of cinematographers have employed meters for interior scenes, as well.

It is generally admitted, however, that the ideal professional meter has not as yet been produced. Such an instrument must be a direct-reading, rather than a reflector-reading type, capable of covering an extreme range of brightnesses, yet small and compact. It is agreed that it should be primarily a light-meter rather than an exposure-meter, but with if possible a compensating adjustment for coordination with films of varying speeds.

In this connection it may be mentioned that an important advance during the latter part of the year was the appearance of a Weston film-speed chart which for the first time specified the development and gamma upon which each speed rating was based.

Another important development, which may well have far-reaching effects, was initiated in the Paramount production, "Bait It in French," which utilized a considerable proportion of process background scenes, the background plates of which were photographed in famous New York hotels and clubs, making available

settings which could not economically have been duplicated in studio sets.

Other productions now in work at the same studio are making further use of the same idea. This method may well extend the scope of production greatly, while at the same time effecting beneficial savings in set construction.

An interesting experiment, initiated by William Daniels, A.S.C., in filming "Marie Antoinette," was in the use of a special script clerk to assist the cinematographer in keeping accurate records of lighting and other technical details. On big productions, where extremely large sets are to be used, or where several production units must work in technical coordination, the plan offers marked advantages.

Film

Nineteen thirty-eight unquestionably must be recorded as the outstanding year of "fast film," even surpassing 1931, when the first Supersensitive Panchnegative film was introduced. At the beginning of the year the Agfa Ansco Corporation introduced two new films, Agfa Supreme and Agfa Ultra Speed Pan, respectively two and four times as fast as any previously available emulsions.

The former, which gave its increased speed with at least no sacrifice in grain quality as compared to conventional super-panchromatic emulsions and, in the opinion of many authorities, an actual improvement in fine-grain quality, was a sensational production emulsion.

The latter, which made some sacrifices in both grain and gradation, was primarily a newswear and special purpose emulsion for use under extremely unfavorable conditions.

In the fall the Eastman Kodak Company followed suit with three equally sensational emulsions, Background-X, a super fine-grain film with twice the

speed of the firm's previous background film or approximately 75 per cent the speed of conventional super-panchromatic types; Plus-X, a high-speed, fine-grain production film with a speed twice that of conventional super-panchromatic emulsions; and Super-XX, a special purpose super-speed film, four times as fast as conventional emulsions.

These new products open important new avenues to both technical and economic advancement of cinematography. As regards the production emulsions, the added speed may be utilized either by stopping down, thereby obtaining increased focal depth; by reducing the intensity of light used, thereby effecting worthwhile savings in electrical costs, or by a combination of both.

The full possibilities offered by these new films have by no means been realized as yet, but they represent without doubt one of the most significant advances in many years.

Certain of these types are also available in the 16mm. field; Agfa's Supreme in the form of 16mm. negative, and Eastman's Super-XX as a 16mm. reversal emulsion.

Considerable interest has been aroused by the progress made by the Taylor-Sloan Corporation in the development of metal film for both still and motion picture use.

Color

Natural-color cinematography and photography have made important gains during the year. The Technicolor process has continued to improve, and has been used by an increasing number of producers, including some studios which for many years had been obviously reluctant to experiment with color productions. With the increasing use of the process, greater technical freedom has become possible, especially in the improvement of special process technique

HOW TO GET A WATER SHOT—Comedian Leo Tover, A. S. C. (standing on boom) and his assistants are here shown making a "take" on the Bob Hope-Merba Ray comedy, "Never Say Die" at Paramount. Director Elliott Nugent is shown with megaphone.



and in the use of Technicolor cameras in serial cinematography.

Strong rumors still persist, without official confirmation or denial, that the present three-film process will before long be supplanted by a single-film method, an adaptation of the "Kodachrome" monopack principle.

More concrete is the fact that Technicolor negative for the present three-film system but of considerably increased speed has been evolved. This has already been used for special purposes on actual production and the fact that it will soon be available for general use has been formally announced to the trade.

Several other organizations have also shown increased activity in the color field. Among these may be mentioned the Dunning Process Corporation, which announced the expansion of its former successful two-color process into a three-color method, and at the same time announced a new method of solving the physical and economic questions of color processing by housing individual studio laboratories for the purpose, retaining the parent plant merely to handle independent production processing and research, while major customers process their color in their own laboratories.

Another entrant in the color field is the Jackson Process Company, using

backpack with improved methods of processing and printing.

In the substandard field, the Kodachrome process continued to gain in popular favor. The Eastman Kodak Company announced a service for making 16mm. Kodachrome duplicates, while several independent firms continued their activity in this field. One of them, the Sash-Noble Corporation of Hollywood, announced the first commercial 8mm. Kodachrome duplicating service.

Standard Cameras and Equipment

In the field of still color photography Dufay introduced an improved emulsion, Eastman brought out Kodachrome cut film for cameras up to 8 by 16, and Besseler made marked gains in the commercial making of color prints on paper from Kodachrome and Dufaycolor originals.

Little genuinely new development was evident in the field of 16mm. camera equipment. Progress in this direction consisted mainly of putting to commercial use previously developed products.

No new "silent" cameras appeared during the year. The self-blinded Mitchell "BNC" model, however, was put into service by several studios both in Hollywood and abroad. Certain other studios also modernized their camera equipment by replacing older cameras with new Mitchell "NC" equipment.

A notable happening of the past year was the revival of the once famous "Duplex" line of cinematography, including an excellent camera particularly suited for accurate lip-speak use.

Substandard Cameras

The substandard camera field has been considerably more active. There is a strongly marked trend toward an ultimate standardization upon 8mm. as the principal amateur film size, and 16mm. as a semi-professional standard.

One of the foremost developments in regards 16mm. cameras was the introduction of the Gurnbier Synchro-Sound 16mm. sound camera, which is to be distributed by the Anapex corporation. This is a virtually professional camera using 16mm. film, and single-system recording. The camera is integrally blimped, and utilizes separate motors for driving the film past sound and picture apertures. The device seems definitely intended for serious professional and semi-professional use.

In the strictly amateur field, Bell & Howell's long-awaited introduction of a turret-equipped 8mm. camera indicates that at long last recognition is being given to the great body of advanced 8mm. users.

This new camera not only includes a three-lens turret, a feature long desired by 8mm. users, but also provides for full-frame ground-glass focusing in a manner reminiscent of the famous Bell & Howell Standard professional (35mm.) camera.

Ahead, the 8mm. user has received greater consideration. Foremost among recent designs catering to such films is the (French) Emel, which includes a three-lens turret, a wide range of speeds, and a buckweld crank for making dummies.

Several examples of such other foreign as the Ditmar, fitted with built-in optical or electric exposure meters; the Stenax, a magazine-loading type in which diaphragm and speed control are interlocked to permit automatic compensation for changes in camera speed; and the electric-driven Eclair C-4 have been imported to this country.

The Kaming firm, incidentally, has produced another model (not available except in Continental Europe) which has a built-in photoelectric exposure meter interconnected with the lens diaphragm to permit semi-automatic exposure control.

Extreme low-cost 8mm. equipment such as the "Univer" has opened marketing to a wide new group of purchasers.

Accessory Equipment

The popularity of magazine-loading 16mm. equipment has continued, with the introduction of Bell & Howell's Filmo "141," an improved magazine camera adapted to the same type of magazine as that made for the popular Magazine Cine-Kodak.

Among the more important accessories introduced during 1938 was the General

Electric photoelectric exposure meter. While intended primarily for amateur use, the device has gained considerable favor among professional cinematographers.

The introduction of other photoelectric exposure meters of lower price, including the Weston Junior model, and the Illuminex Electrophot, is also significant.

The greatest activity in the field of accessory equipment is evident in accessories for 16mm and 8mm. Among important among such developments may be mentioned an excellent 8mm. film-viewer from Bell & Howell, and improved 8mm. and 16mm. viewers from Eastman, the latter showing the picture in motion by means of an ingenious pneumatic optical shutter.

Other accessories have simplified three major problems of substandard filming: One is Bell & Howell's new 8mm. titler, in which the camera lens is removed and the camera attached to the titler which is fed with a special pre-focused objective.

Separate sets of globes are provided to fit interchangeably in the pre-set lighting installations to give correct exposure for monochrome and color negative film or positive film. Thus the problems of focus, alignment and exposure are minimized.

Another valuable accessory is a fixed-focus enlarger made by Eastman for making enlargements from 16mm. frames, while another, of particular value to the users of the Magazine Cine-Kodak, is a ground-glass and magnifier assembly interchangeable with the regular film magazine, which permits accurate focusing through the lens with this popular camera.

Lighting

The marked tendency toward the increased use of spotlighting equipment, especially in the smaller sizes, has already been noticed. Important in this change in lighting methods has been the introduction of modern, Fresnel-lensed "baby" spotlighting units by Mole-Richardson and Bardwell-McAlister. Both use EGG-Wait tubes; the former is known as the "Baby Janner," the latter as the "Baby Keg-Lite."

Less obvious, but nevertheless a well marked trend, is that involving increased use of arc lighting in monochrome cinematography. Where formerly the use of arc equipment for special lighting effects in monochrome production was a somewhat rare occurrence, the development of modern, silent, steady-burning arcs has made it commonplace.

During the latter months of the year two new twin-arc benchside units were introduced: Mole-Richardson's "Ducor," Bardwell-McAlister's "Twin Arc Broad." The former utilizes a new dual feed, in which each arc is fed independently by an extreme slow-speed electric motor governed by the resistance across its arc. The latter uses a motor-driven feed

in which both arcs are fed together at a rate governed by the rate of burn.

Both lamps feature flickerless light and unusually long burning periods: the former burning without attention for over two hours, the latter for an hour and three-quarters.

Mole-Richardson also introduced a Fresnel-lensed El-Ampere arc spotlight to round out its range of E. L. Arc spotlighting equipment.

An interesting accessory to the larger E. L. Arc units was developed during the year for special "spot-beam" effects. This is a system of supplementary lenses replacing the regular Fresnel lens.

The first of the type was developed for use at the 20th-Century Fox Studio, and similar devices were later put into commercial production by Mole-Richardson.

Special Process

The outstanding development in special effects camerawork was the increased facility in which both the transparency (background) projection process and mirrors were used in Technicolor. An important factor in this is the triple projection setup used by both Paramount and Warner Brothers' special process experts.

The device consists of three projector movements and high-intensity lamp-houses projecting through a single optical system from matched prints. The images are superimposed on the screen, and result in either an average-sized image of greatly increased brightness—an advantage in color—or an image of average intensity but far greater size than has hitherto been practical.

Complementary to this is the perfection of the dual screen transparency system, in which accurately coordinated background plates, made by twin cameras, are projected on two screens, giving a larger and wider background than was previously possible.

The new fast films, permitting the use of reduced apertures, giving greater depth of field, has been of great benefit in process camerawork, as the screen may be placed farther behind the scenes and still adequately in focus.

An important element in the manufacture of process projectors during the past year is the Mitchell Camera Corporation, which marketed a new process projection head as a companion to the Mitchell camera.

Laboratories

With the exception of the changes naturally incident to handling the new fast films, no great changes are to be noted in laboratory methods. A new plant was erected for the Warner Brothers' Studio, featuring greater detail refinements in equipment design, especially in automatic control of temperature and strength of solutions, and in provision against failure of any unit or of the outside supply of power or water.

As this is written Technicolor is erecting an addition to its Hollywood plant,

to handle increased production, while Cinecolor is also erecting a new plant.

Sound

Aside from detail improvements in the major recording processes and the continued trend toward interchanging use of variable area and variable density recordings as the occasion demands, together with a more general use of bilateral sound tracks, "sequence," etc., the main advances in this phase have been in the independent field.

Among these advances may be mentioned the introduction of the Art Reeves Ultra-Violet glow-lamp recording (variable density) and the Beebe-Mueller bilateral-track variable area galvanometer.

Another interesting device for background and commercial use is the new Art Reeves single-system portable recording attachment, which fits between the head and magazines of any standard camera, leaving the camera unchanged when sound is not necessary.

Projection

Most notable in the field of projection has been the introduction of several 16mm. sound-on-film projectors in the lower price ranges. Equally important is the introduction of the Eastman Sound Kodascope Special, first shown over a year ago, but not commercially available until this year.

Of great significance is the announcement by Bell & Howell and Ampro of 16mm. sound projectors fitted with arc lamps for use in larger auditoriums, schools, etc.

Coupled with a growing tendency among several major producers to make available 16mm. reductions of relatively recent theatrical films, this seems at last to promise the long prophesied use of 16mm. films for smaller theatres—a development which should be of importance to the industry as a potential means of reviving the prosperity of houses so small or so located that they could not make money with the more costly 35mm. prints.

In Europe, several 16mm. arc projectors have also appeared, while for home use Pathé has announced a relatively inexpensive 25mm. sound-on-film projector and the establishment of a second rental library in this standard. Despite the almost microscopic size of the track, 25mm. sound quality is said to be good.

Europe has also led the way in projectors quickly adaptable to the showing of films of more than one size. The Rolux-Parfard can be had in models equipped for interchangeable showing of 16mm., 25mm. and 8mm., while the Dittmar is available in a two-film (8mm.-16mm.) model.

The Rolux has an interesting feature in its adjustable shutter, which permits change from a four-blade shutter for flickerless home projection to a two-blade shutter for auditorium use where extreme illumination is needed.

Mention must also be made of the de-
(Continued on Page 48)



Left, Paul Mann tests a make-up for his role in "Juarez". This make-up was found slightly too dark. Right, make-up test of a Mexican player.

NEW TESTS COORDINATE MAKE-UP

By GAETANO GAUDIO, A.S.C.

ONE of the biggest problems faced by the cinematographer is that of coordinating make-ups. Our modern make-up artists have advanced their work to a point of perfection such that individual make-ups, viewed individually, can seldom be criticized. But when, on the other hand, we have to consider the many make-ups worn by the various players in a production in relation to each other we often find things going seriously and expensively wrong.

To cite a typical example, suppose we have a blonde woman like Bette Davis, whose make-up must be planned to accentuate the effect of her fair skin and coloring. Opposite her is cast a rugged leading man like George Brent or Pat O'Brien, wearing a darker make-up to enhance the suggestion of sun-browned masculinity.

With a skilled make-up artist like Free Westmore is charge of make-up it goes without saying that each of these will be individually perfect. Pre-production photographic tests of each make-up will prove that. As the production gets under way, each player's individual scenes will confirm this.

Need Make-Up Coordination

The real make-up problem will present itself (and it does so nine times out of ten) when these two players do their first scene together. Then

it will suddenly become evident that either Miss Davis' make-up is far too light or Brent's is far too dark.

Under modern production conditions, with both players and camera moving freely about the set, it is almost impossible to offset this by using less light on the woman and more on the man.

Despite all efforts of the cinematographer and the laboratory, inevitably there will be times when the woman's face suddenly appears chalk-white or the man's sooty. The trouble generally becomes worse as the make-ups of other players—especially those playing character parts—become involved.

And yet under individual photographic test each make-up seemed perfect!

When these satisfactory tests are run in comparison with the unsatisfactory rushes everyone concerned finds it easiest to point an accusing finger at the cameraman, saying "You used too much light testing the man's make-up and too little testing the woman's; no wonder they don't look right when working together!"

Direct Comparison

This problem has always existed in the old days—for instance, when the writer for so many years photographed Norma Talmadge—there was a relatively easy solution. In addition to individual make-up tests additional tests

were made of each important player in direct comparison to the star.

Thus of the make-ups of the leading man, the "heavy," and the character players each appeared satisfactory in relation to that of the star all could be expected to coordinate satisfactorily with each other throughout the production. In case of doubt it was by no means uncommon to make an additional test of all of the principals together.

The same idea would be an equally effective solution to the problem today. Unfortunately, however, modern production conditions make such exhaustive tests virtually impossible. When the star is available, the leading man may be working overtime to finish a role in another production, while other key players may be busy in some other studio. As is well known, some important parts frequently may not be cast until after production is well under way.

What is needed, therefore, is some method of testing make-ups individually, while yet maintaining an unvarying, absolute normal in lighting, exposure and laboratory processing, which will scientifically coordinate the whole series of individual tests.

Normal Standard

In preparing for my current production, "Juarez," this problem reached gravely menacing proportions. There are over 10 speaking parts in the picture, the characters ranging all the way from extremely fair-skinned French and Spanish aristocrats, through olive-skinned Mexicans to swarthy Indians and Negroes.

The star, Paul Mann, plays Juarez, who was part Spanish, part Indian, and part Negro. Quite aside from the dramatic importance of the role, his make-up must be deftly handled to be convincing, for he must appear darker than the Spaniards and Mexicans, yet lighter than the Indians and Negroes.

To coordinate these make-ups with the necessary precision, the writer evolved a system of make-up testing which rigidly puts each test to an absolute normal of illumination and processing, yet imposes no restriction on artistic individuality in lighting or camera technique. So simple and successful has the system proved that it has been adopted by all the members of the Warner camera staff.

As will be seen from the illustrations, the system involves photographing as a part of every make-up test a large white board upon which is a graduated neutral scale of ten clearly marked divisions ranging from pure white at one end to black at the other.

This scale receives the same amount of front light as does the player being



tested. This illumination is held to a definite standard in all tests, and in of course measured by means of a photoelectric meter.

In my own experience, using Super-X film with the standard developing of the Warner Laboratory, this standard front light level is 200 foot-candles. Using any of the newer, faster films like Eastman Film-X, this value would be materially reduced.

Similarly, individual differences in the processing standards of different laboratories would naturally alter this fundamental illumination level. However, once this standard of illumination for a given film and laboratory is determined, it remains constant regardless of any other altered factors.

Standardized Procedure

All make-up tests can thus utilize this standard neutral scale, and can be illuminated with a standard level of front light. The negative is then developed to the laboratory's predetermined normal standards of time and gamma.

The prints are timed with reference solely to the neutral scale—simply keeping the white end of the scale a pure, unclouded white and the dark end a positive black, with the intermediate gray graduations in their correct relative densities.

Thus we have a means by which we can key all our make-up tests to an unvarying, absolute normal. The front lighting is maintained in a uniform key throughout all tests. Exposure is also uniform. Negative development is standardized. Printing is likewise standardized, to always give an accurate reproduction of the graduated test chart.

The only factor which remains variable, and which can affect the rendition of facial tones, is the make-up itself.

Practical Results

If, in such a test, a face appears too dark or too light, it is obviously the make-up itself, rather than lighting, negative development or printing which is at fault. Similarly, if a face appears satisfactory, but the rendition of the chart is distorted, it is clear that some unthoughtful juggling of laboratory processes has been done. If both face and chart are rendered satisfactorily the make-up must be correct.

Thus it will be seen that the testing

Left, testing the make-up of a character actress. Though the print required a light make-up, this was too light. Center, test of feminine make-up on a Mexican type. Right, test of feminine make-up for a Caucasian type.

of all make-ups can by this method be pegged to standards of photographic normalcy which remain uniform throughout any possible series of tests. Accordingly it may be assumed that if one character's make-up is so tested and found satisfactory, and another's either darker or lighter, as the part may require, is similarly tested, both make-ups will prove satisfactory, not only individually but in relation to each other.

It should be further stressed that this system, for all its technical rigidity, which is of course necessary if all photographic variables are to be eliminated from the tests, need impose no restriction upon the artistic individuality of the cinematographer once actual production is under way.

There is nothing in the system which can hamper the cameraman's freedom in lighting or force him to photograph his production in an arbitrarily fixed key.

On the contrary, it relieves him of worries in this direction, for he has made his tests of all make-ups in relation to a uniformly normal key. If in his production he raises or lowers the key of his lighting he can be confident that the effect on all of the make-ups will be uniform.

Considering modern production conditions this system has in practice shown a further advantage. Quite frequently the cinematographer directing the photography of a production may not be able to make all of the necessary make-up tests himself.

With this system in effect, as it now is at the WB Studio, he can be confident that any other cameraman can make such tests for him, even, if need be, in another studio, utilizing the standard scale, standard intensity of lighting and standardized processing, with the result that the other cinematographer's tests will coordinate perfectly with his own, and that make-ups found satisfactory by either man's tests will prove satisfactory when the players work together in the production itself.

Hollywood Forum Exhibits

The Hollywood Motion Picture Forum, an organization of Southern California educators, held a showing of motion pictures on the evening of December 3 at the Bell and Howell auditorium. Bruce Findlay, forum president, presided. One of the features of an unusually interesting evening was the comments of Marjorie Dowling Brown of the University of Southern California at the conclusion of the program. It would have been a feature in any evening's entertainment.

The program: "Still Waters," from 1928 annual A.S.C. contest. Photographed by Mr. and Mrs. Fred C. Ellis of Yokohama, Japan. Shown by special permission of the American Society of Cinematographers and the authors.

"Yellowstone," in color, photographed by Ellis Yarnell, U.S.C. '31.

"Pack Trip to the High Sierras," photographed by Henry Washburn, directed by Dr. Boris Markovic.

"Navajo Children," ERPI Classroom film, photographed by John Hoedler.

"Wheat Farmer," ERPI Classroom film, photographed by Floyd Crosby, A.S.C., directed by Ralph Jester.

"Dance of the Hours," pictorial, symphonic chant.

Bell & Howell Publishes Filmosound Library Book

The Filmosound Film Library Book, just issued by Bell & Howell, provides a single film source adequate to meet the most diversified demands of educational institutions, industry, homes and communities. It comprises sound-on-film features, comedies, cartoons, adventure, nature subjects, music, religion, history, news reels, sports and teacher training.

Here are over 2800 reels of sound film offered for rental or sale by Bell & Howell. There is also much interesting information on the method of booking and servicing film prints, on the varied application of listed films to subject-matter fields, and criteria for the strict appraisal of all offerings. The book is profusely illustrated with scenes from listed films.

FROSTY FILMING

By

Ormal I. Sprungman

Photographs by the Writer



For striking silhouettes place your subject in the area of a hill, with bright flare on one side, camera on the other.

FOLKS who live south of the shelter belts may have an edge on the being, sun-blessed winters, but for real, honest-to-gosh moviemaking no scenery compares with the snow country of the North. Even the sports which predominate in the frostlands are tailor-made to provide bang-up action for warm-blooded cinematographers.

With such a wealth of material at hand it is not unusual for moviemakers to engage in a round of head-scratching wondering what to film and where to start. Perhaps this article might offer some contrary ideas and angles new to your camera, suggestions that might enliven your winter and spring shootings.

If you've filmed snow before, no doubt you've realized the need for a yellow filter and a small aperture to reduce light glare. Perhaps your snow filming has been limited to mere potatoes of

shoveling the front walk or sliding down hills. You're looking for new approaches to this perennial filming topic, and you want to bring home something more than just frost-nipped fingers and a dripping nose.

Ever try making ski movies? Not just a few misplaced poses by friends, topped off with a couple of faked turns, but a first-rate masterpiece of action, artistically photographed and educationally produced.

WHI Put on Ken

If you reside in an area where skiing is foremost, chances are that ski slides will be as numerous as city park wading pools for the youngsters. Along every ski run you will find better than average skiers, occasionally a professional, most of whom are happy to demonstrate their prowess before your lens.

If your demonstrator is a petent tel-

low, you might even coax him to go through the Christiania and Telemark swings, and the Galeniesprung, a second time, so that you can reshoot in slow motion. Once you have obtained these shots, doping out a continuity should be the least of your worries.

For instance, you might unfold the story of a beginner buying his first skis, trying the hills, falling down every time, until finally he hires a tutor. The instructor goes through all the swings gracefully and with rhythm. It looks easy.

With renewed effort the beginner returns to his solo skiing, but falls on the first hill just as hard as before. End with a close-up of his snow-drenched face for a chuckling fadeout.

Let's study this brief scenario a bit more deeply. When ready to film, we might start out like this.

Yet Maybe Not

Open with a closeup of a book lying on the table. Its title is plain lettered: *Skiing Is Easy*. A hand reaches over, draws the book away, and fingers begin turning the pages. The camera pulls back to show a young fellow, one foot straddling the arm of an easy chair, engrossed in the perplexities of skiing. Suddenly, the lad escapes his fingers and sets down the book with a determined look in his face.

Dissolve into a worm's eye view of a downtown sporting goods store sign, pascinating down to disclose the same lad looking in the window and finally entering the shop. Next comes the selection of the skis, the fitting of the ski boots, and the boots to the larness.

For these store interiors, photoflood illumination will be needed, and the use of Eastman's Super-XX, which is twice as fast as ordinary representative movie



Wider scenes in color furnish shooting material for a while season.



film, will offset any deficiency in the amount of lighting equipment on hand.

Most store owners would gladly co-operate in staging these scenes for the publicity derived. Naturally, all shooting should be done after regular hours, and if other "customers" are needed for the background, employ your friends as actors rather than rely on lens-peering strangers.

Camera Follows Feet

The final shot filmed in the store will show a human hand adjusting the harness to fit the ski best. Dissolve here once again, this time into an outdoor scene showing a closeup of a gloved hand making a similar adjustment on snow-covered ground.

The camera follows the ski-clad feet as they move over the crusts, then lifts slowly as the skier glides off in the distance.

Now find a steep hill, the steeper the better. Set up your camera on tripod part way down the incline and point the lens up towards the peak. By means of a predetermined signal, start the camera motor running just before our friend skis along to the top of the hill. With good picture clouds in the background, this angle shot should provide an excellent silhouette study.

Glancing to right and left, the skier pauses, swells out his chest, and starts heavily down the slope. Pull back for a long shot of the entire hill and show the tiny figure rising out of control, finally

plummeting head over heels into a drift near the camera.

He rises slowly to his feet, looks around sort of sheepishly, brushes off the snow, and starts herring-boning up the hill. Nothing can dampen his spirits.

Once atop the knoll, he goes through his heroic maneuvers, shoving off again. This time use your 3 or 4 inch telephone lens and follow his downhill course. The script calls for another fall, with skis, legs and arms extended in all directions. As you close in with your camera for a near shot, a finger taps his shoulder. Our snow-covered skier looks up. A hand points to a sign on a nearby cabin. A closeup of the sign reveals: "800 Lessons, \$10."

Show Handshake

Next, shoot a closeup of shaking hands as the amateur greets the professional. A hillfold opens and a ten-spot changes owners. Now is the time to cut in the real skiing shots, revealing perfect form and technique.

Return occasionally to closeup the amateur who marvels at the performance. The professional shots of skiing can be filmed at any time and cut in at this point. To authenticate these scenes, however, show another handshake and a pat on the back as the professional returns to his cabin.

Doubleless the finest scenes are filmed after a fresh snow. To add human interest, let a hiker, skier or snowshoer wade through a scene such as this.

Ice crawling up on the snow country is one sport that deserves to be filmed. The fishermen themselves often provide interesting character studies.

Set up your camera for another woman's eye view of our skiing friend on the hill. He is bursting all over with confidence. A few running glides, and he's gone with the wind.

To show the downward descent from a new angle, box your camera in a protective covering, and hold it in your hand at your side with motor running as you go on down. To show exaggerated, breath-taking speed, shoot at 8 frames per second instead of the usual 16.

When you are half way down hill, start swinging the camera jerky in every direction, finally simulating a nose dive into a drift by pointing the lens straight down. This is supposed to resemble the uncalculated action of a skier doing a fancy flip.

Next, take a medium shot of a huge pile of snow with only the skier sticking out. Swing in for a close-up of the face in the drift. Fadeout.

This ski film can readily be covered in 300 or 400 feet. Naturally, more footage should be devoted to the professional ski scenes, for most winter sportsmen enjoy watching technique. Slapstick is built around these serious scenes to lighten the cine rama. If properly photographed, the audience reaction should rate high.

So much for skiing. Skating or ice-boating are similarly filmed.

Less than twenty years ago, skiing was far from popular, tobogganing and snowshoeing, as practiced by the Indians, stealing all of the thunder. If one of your friends is fortunate enough to own a pair of snowshoes and able to use them, you can secure some striking woods scenes in snowtime.

(Continued on Page 22)



Bell & Howell's Western Branch Entertains Dealers



Gathered about this array of projectors are Cliff Thomas of the Hollywood Camera Exchange, M. S. (Macley) Ward of the Los Angeles Camera Exchange, Jack Waller, assistant films sales manager of Bell & Howell, President Bill Winter of the Southern California Dealers' Association, Mr. Melrose and President L. N. Collins of Winstead Brothers, and Russell Street and Sigmond Diamond of Bell & Howell Company.

ON THE evening of November 29 the Bell and Howell Company entertained the dealers of Southern California, ranging in location from Fresno to San Diego, at a dinner and an exposition of new equipment. Twenty-five clubs were represented. Over 250 sat down at the Mesa Mesa at 6:30. At 8 o'clock a substantially larger number attended the Bell and Howell building in La Brea avenue.

The manufacturing company was represented by its western district manager, H. W. Remerscheid, and the Southern California Dealers' Association was represented officially by among others its president and secretary, William (Bill) Winter and Earl Bosden respectively.

From 8 until nearly 11 o'clock the party thronged through the big building in La Brea avenue near the corner of Melrose avenue. One of the greatest attractions was the factory, the main

room of which is 50 by 75 feet in dimensions, where the company had arranged with its employees to confine with their routine work. Others were the new Filmo turret 8 movie camera and also the Enkita line of cameras and Enkita lenses.

One of the impressive arrays of equipment was that of nine projectors, arranged in a series from the latest eight to the biggest sixteen. Another was the B & H professional printer, which commanded much interest. In the auditorium the various projectors were demonstrated, sound as well as silent, including the new 16mm. 1200 watt lighting system. For two straight hours there was a full house.

So successful was the occasion, in spite of its being the first of its kind, that already it is contemplated making the dealers' exposition and dinner an annual affair.

Among the many dealers present were noted:

W. J. Winter, of Winter, Inc.; M. S. Ward, owner Los Angeles Camera Exchange; E. T. Bosden, Simpson's Camera Store; J. W. Peterson, president Peterson's Camera Exchange; Miss Mabel Chenoweth, manager camera department J. W. Robinson Co.; William Steg, manager Home Movie Library and Equipment Company; Ken Allen, manager camera department, Schwabacher-Frey Co.; J. E. Seemann, manager camera department Slavic Jewelry Co.; Cliff Thomas, owner Hollywood Camera Exchange, all of Los Angeles; L. N. Collins, president Winstead Brothers, Inc., Long Beach, L. E. Fellows, manager Buzzell Photo Shop, San Diego; W. A. Weir, manager Ward-Wear Photo Shop, Long Beach; Earle McCutchan, manager Camera Supply Co., Long Beach; A. L. Kirkhoff, Glendale; Lester Gotsinger, manager The Flag Studio, Pasadena; Richard Froom, Pasadena.

Among the Bell & Howell Company staff assisting Messrs. Remerscheid and Carlson were Jack Waller, Walter Evans, Don Wood, Art Bolt, Russell Gossman, G. C. Barretto, and John York.



A corner of the dining room where two hundred Southern California photographic dealers and their wives and families sat down to guests of Bell & Howell. At the upper left and occupying to the right H. W. Remerscheid, Western district manager B. & H., and Bill Winter, president Southern California Dealers' Association, are in earnest discussion, (farther right) Earl Bosden, secretary association; Barbara Brewster, Jack Melrose, Twentieth Century-Fox publicity, and Gloria Brewster complete the list at the speakers' table.

SHERLOCK'S "NATION BUILDERS" WINNER

JAMES A. SHERLOCK of Sydney, Australia, repeats this year in his performance of 1937 in winning the grand prize of the American Cinematographer's annual amateur motion picture competition. The battle for the 1938 award was the seventh in the growing length of the series of unbroken contests.

The award was \$200. The picture was "Nation Builders," truly an epic, a documentary in the strict sense, and one that might have qualified for the photographic award. For that matter, so might all the others named in the top flight. Extended attention will be given this pictured history of the foundation and growth of Australia on another page in this issue.

One of the more notable phases of the 1938 contest was the distinct gain in the relative number of 8mm. films as compared with the 16mm. Last year there were but nine out of sixty films of the 8mm. size submitted.

This year twenty-one out of forty-five subjects were submitted in 8mm. The twenty-one films totaled twenty-four reels, of which fifteen were in color and but nine in black and white.

In 16mm. the twenty-four subjects were submitted in thirty-two reels, of which seventeen were in color and fifteen in black and white.

This year two out of the seven major

prizes were on 8mm. film. Last year no one of the major contestants was on 8mm., although one of the major equipment prizes was awarded to an 8mm. entrant.

The picking, the selection, that fell to the judges was considerably tougher than last year. There were more survivors of the initial tryout.

The Winner

"Vida Pascima," 8mm. color, won the award for photography. It was submitted by Randolph B. Clardy of the Los Angeles 8mm. Club, a veteran of American Cinematographer contests. It was a picture of a little town in San Fernando Valley, just outside Los Angeles. The photographer had looked in on the sleepy little Mexican village—it really might have been Mexican as far as nationality is concerned—over a period of months and shot what he found.

He had found a multitude of little things—good chewing its cud or rolling on its back; a priest, solemn of mien and looking directly at the camera and yet not seeing it, ringing the old-fashioned church bell; churchgoers entering the church and another sequence showing them departing, with the attendant chatter; shooting through fences at children going somewhere, but always on the move.

In fact, the picture always moved. Sometimes it was a corner of a house, with the sky above it. Sometimes it

was just human beings—never particularly prosperous ones, but always human beings as they are to be found in their unposed state. Nearly always the subjects knew little or nothing of their photographer. Only occasionally did a child stop and peer curiously for the instant allowed him toward the camera.

"Beyond Manila"

"Beyond Manila," 16mm., was given the nod for best color. There was plenty of competition, too, in that department. W. G. Hahn of Baguio, Mt. Province, Philippines, was the excellent photographer and producer generally of that subject. For the picture was strong in all departments. In fact, it was the final contender against the winner of the grand prize.

It is in three reels. Like the title, it is really "Beyond Manila." It takes the follower into a country that has been little photographed, one part of that territory being the land of the Igorrote, in Northern Luzon. There is much to be seen of the people, the way they dress and live and work.

There's abundant scenic beauty in the Philippines. We see many evidences of it in the pictures here shown of mountain and plain—of stream and waterfall. The natives, too, are real workers, women as well as men.

"Ritual of the Dead"

"Ritual of the Dead," in sound on disk and black and white, was given the award in the scenario division. It is the latest example of the work of Richard H. Lyford, who has just attained his majority with a record of nine photoplays to his credit as well as many stage plays.

As has already been set forth in these columns, this young man has an unusual background. With the active cooperation of his mates in high school in Seattle and the support and cooperation also of his parents he has been able to accomplish more in the production of photoplays than any other of his age. We are inclined in this connection to take in considerable territory—and still believe we are correct.

"Ritual of the Dead" is an old-fashioned thriller. The leading characters, that of the young man who murders

THE WINNERS

Grand Prize, \$200—"Nation Builders" (16mm. black and white); James A. Sherlock, Sydney, Australia.

Best Photography, \$50—"Vida Pascima" (8mm. Color); Randolph B. Clardy, Los Angeles.

Best Color, \$50—"Beyond Manila" (16mm. Color); W. G. Hahn, Baguio, Mt. Province, Philippine Islands.

Scenario, \$50—"Ritual of the Dead" (16mm. black and white); Richard H. Lyford, Glendale, Calif.

Scene, \$50—"Hot Water" (8mm. Color); Earl Cochran, Colorado Springs, Colorado.

Documentary, \$50—"Chicago the Vacation Center of the Nation" (16mm. Color); Theodore D. Shaw, Chicago.

Home Movie, \$50—"Santa Velta Elaine" (16mm. Color); John E. Pohl, Cicero, Ill.

Special Award—"Jella Again" (16mm. Color); Carl Anderson, Los Angeles.

rather promiscuously and the tattered man who returns to life seemingly to accuse the murderer after the latter has reason to believe he has safely escaped detection for his crimes are carried by the producer.

The denouement of the story, which is just that we have here intimated, carries a real thrill. As one who saw the picture first in its silent form and then saw and heard it in conjunction with the sound we can certify to the added thrill that attended the combination.

It is the first use of sound in the seven contests that have been held in the series. There undoubtedly will be more of these. If they are as well done they will be worth while, for undoubtedly there is plenty of accompanying grief in the making of them—even to see as well acquainted from the amateur side with the difficulties of writing, preparing, directing and simultaneously acting in a picture as is the young producer who has gone so far in the field of miniature and sound.

"Hot Water"

"Hot Water," by Earl Cochran, S.A.C., of Colorado Springs, is 275 feet of 8mm. Kodachrome. The subject covers with considerable thoroughness a visit to the geysers. The photographer, although he has been making motion pictures for a year and a half, shows plenty of promise for even more work out of the ordinary when he gets better acquainted with problems of exposure and color.

That is not said in any manner of denigration of the work that took the film for the present subject. Of the filters used he employed Kodachrome haze, K-2, A and Pola-screen. The excellent photography is embellished by carefully executed diagrams of just what makes the water hot and what makes it bubble and flow.

"Chicago Vacation Center"

"Chicago Vacation Center" of the Nations, which was awarded the honors in the Documentary class, was photographed in 16mm. color by Theodore D. Shaw of the Metro Movie Club of Chicago. Mr. Shaw has been making movies for eight years, which fact perhaps explains why he was able to accomplish what he did without the use of filters or other effects.

The film gives an excellent portrayal of life in a big town, starting with the day as Chicago appears at sunrise. Perhaps it may be difficult to name a city which possesses so varied a background in its lake and river and bridges. Certainly educational authorities searching for subjects that portray with authenticity life in metropolitan centers could not go wrong in seeking this fine picture of Chicago. The subject rates in all departments as a finished film.

"Santa Visits Elaine"

"Santa Visits Elaine," 16mm. in color, by John E. Fohl of Cicero, Ill., was the winner in the home movie class. The



James A. Sherlock

Honorable Mention

Scenaris

"The Phantom of Sonora Gulch," 8mm., b&w, Earl Cochran, Colorado Springs.

"Fragliacci," 16mm., b&w, William S. McKinnon, Appleton, Wis.

"Dangerous Border," 16mm., b&w, James H. McCarthy, Los Angeles.

"Aftermath," 8mm., b&w, A. E. Callow, Compton, Cal.

Scenic

"Alaskan Cyclorama," 16mm., color, R. C. Derry, Fresno, Cal.

"Midsummer Night's Dream," 8mm., color, John E. Walker, Los Angeles.

"The Great Boasting Waters of Niagara," 8mm., color, Joseph F. Hollywood, New York.

Photography

"Still Waters," 16mm., color, Fred C. Ellis, Yokohama.

"Rancho Paraisos," 16mm., b&w, Henry L. Washburn, Santa Cruz, Cal.

"Autumn Around Fuji," 16mm., b&w, Khei Tsukamoto, Tokyo, Japan.

Color

"Summer in Switzerland," 16mm., color, G. L. Rohdberg, New York.

"The Milkman, Our Community Helper," 16mm., Eugene H. Harrington, Denver.

Documentary

"Still Waters," 16mm., color, Fred C. Ellis, Yokohama, Japan.

"Happy Farm Woman," 8mm., color, George Oliver Smith, Weiser, Idaho.

"Growers' Friends and Foes," 8mm., color, Harold Warner, Santa Ana, Cal.

Home Movie

"Shadow's Bones," 16mm., b&w, Frank E. Gurnell, West New Brighton, N. Y.

"The Honeymoon Is Over," 8mm., b&w, W. T. O'Dagerty, San Francisco.

"Night Before Christmas," 8mm., color, Joseph F. Hollywood, New York.

picture is finely done. It greets you with an unusually strong title when it flashes upon you on the screen. No filters are used. There are few characters in the story—as a matter of fact Elaine and her mother carry the greater burden of the cast. To be sure, Santa is in the limelight for just a moment, long enough to do a little tree and interior decorating.

Elaine looks a trifle large to accept as gospel truth all the conversation sometimes handed to children about the ceilings and garrets of Santa Claus, but the young lady does or is caused to do one good deed which may indicate one of two things: Either she is going to do her utmost to entertain Santa while he is visiting that house or else she has a line on the habits of the male person who is in her mind slated to do the hanging.

She very prominently places a bottle of beer and a large glass right where the visitor cannot miss it. Does he miss it? No, he does not. In spite of the obstacle presented by the phoney mustaches he gets around them.

The subject had a reasonably clear field with the exception of "Shadow's Bones" the work of Frank E. Gurnell of West New Brighton, N. Y. That required an extra session and a special committee.

Special Award

"Jelle Again," a 16mm. subject is Kodachrome by Carl Anderson, of Los Angeles, is 150 feet in length, and because of its unusual character was given a special award by the judges. It is a serious, study a novelty in an amateur context. It is smoothly done, especially so in view of the stiff medium in which he was compelled to work.

At the picture's completion the photographer had spent nine months or more or
(Continued on Page 44)

PLUS X

Ruttenberg Takes November's Photographic Honors

By GEORGE BLAISDELL



Joseph Ruttenberg

Photo by Grissan

JOSEPH RUTTENBERG, A.S.C., ran away with the photographic honors in the Hollywood Reporter's poll for November. The picture was "The Great Waltz," an M.G.M. production. Incidentally it was the third successive month in which a subject from that studio had taken the larger honors—i.e., had been tabbed as the best production of the month.

It naturally had to be the best production of the month because of the frills it took along. Not only was the wife for the best photographer. The poll declared it had the best director, Julien Duvivier; the best actress, Miliza Korjus; best incident performance, Christian Baur best screenplay, Samuel Hoffenstein and Walter Bruch; best musical score Dustin Diamond.

It was Joe Ruttenberg's good fortune to be assigned to a picture destined to be so successful. "The Great Waltz" would have been a good picture even without the presence of the glamorous creature who took the part sustained by Miliza Korjus. With the glorious songsters doing her part, however, the work of all the other factors was lifted to their own best levels.

Continually it is impressed upon us there is no royal road to success; that work well done is not an accident; that behind a success there are hundreds of days of hard work, of close application, of thousands of hours in unnoted apprenticeship.

Can Chuckle Now

Joe Ruttenberg has been all through that. He can talk about it now with a

chuckle, although there were times in his earlier days when a chuckle was far from being exactly uppermost in his thoughts.

The photographer of "The Great Waltz" first saw the light in Eastern New England, in Lynn, Mass. As it happened to be the same town in which this reporter also was raised there was a moment or two devoted to the conversation to that shoe town. But the future cinematographer slid out of the town when six years old and moved a few miles to Chelsea.

Ruttenberg's first employment was on the Boston American as copy boy. It was a fulfillment of a secret ambition—to work on a newspaper. His pay was \$3 a week. That sum must have been a standard rate for cubs in New England print shops, for it squared with the break-in pay received by another lad many years earlier a half dozen miles north of Boston.

Liked Newspaper Work

His joy in his new employment was short-lived, seemingly. A tip from the clerk of one of the editors came to him one morning that owing to a surplus in copy boys some were being laid off, and he was slated to be through at 3 o'clock that afternoon. Bitterly disappointed, the lad put wings to his feet up to 3 o'clock. At that time word was conveyed to him that not only had the boss changed his mind about firing him, he was to get a fifty-cent raise.

And for a year or more young Ruttenberg ran copy from the city rooms to the composing room, he went out on

assignments to help photographers carry their equipment, he went to ball games to bring in copy, to court rooms on a similar errand. He liked the work.

So when word came to him he was due for a promotion and was asked in what department he preferred to be placed he promptly replied.

"In the photographic department."

Some time before he was lifted into the camera room one of the staff men in arranging for a flashlight had lost an eye. The order went out there was to be no more flashlights taken on the paper—regardless of circumstances. A week after Joe's elevation to a camera tending job there was a disastrous tram wreck near Boston. At the time of its occurrence Joe was alone in the room, the others being out on assignment. It was in the evening, so Joe began straggling for flashlights and powder.

Immediately there were protests on the part of others. The editor stood for the rule. Finally the young photographer threw his flashlight on the table and said he would go out and get some pictures without flashes. Now he was going to do it was beyond the ken of his fellows.

At the scene of the wreck the lad hung close to those preparing to cut loose a flash. He got the picture at the same time his competitor did. He did it repeatedly until he had secured a goodly number of shots. He hurried back to the office.

There to his dismay he discovered there were no other photographers on duty in the office—and he had only been on the job of developing for a week.

There was no alternative. He must do it—and with those super-greasy negatives.

The city editor stood behind him when he pulled the first negative out of the soap. As he saw the contents of one of the pictures he danced. "How did you get it?" he demanded.

Made Page of Pictures

But the negatives were good. There were enough of them to make a page, with the photographer's name prominently displayed. There was a bonus for it, too. The new staff photographer was away to a good start.

There was another adventure later on, one that also, incidentally, had to do with that dangerous flashlight. The photographer of "The Great Waltz" remarks in passing the still men of today do not realize what a blessing the present photoflashes are.

A murder had been committed. The torso had been found—and nothing more. The police were stopped. Then one night the city editor got a tip: a member of the crew on a ship anchored in the bay had pulled aboard a suitcase floating alongside his vessel. In it he found a hand and arm bearing a silver ring.

Joe took a flashlight and equipment, then under instructions to get a picture of the setting in which the suitcase had been found. In a boat he rowed out with an assistant. The bay was as dark as the inside of a cow. Quickly set, there was an unusually heavy flash, but apparently no damage was done.

After the two had proceeded some distance toward shore they suddenly noted a lot of water in the boat. The quantity increased steadily. It dawned on the two men they had blown a hole in the bottom of the boat and that it was on the way to sinking.

At the same time it likewise dawned on the staff photographer that as a swimmer he was nil. And then there, too, was the picture. There was nothing to it but to pull for the shore—and pull hard. The two of them made it; although it was a call too close, much too close, for comfort.

But it was a good picture.

There was another instance where for a time it looked much like thirty days in jail. A tong war was on in Boston—and those who have lived in crime where those fangs thrive know they are bad medicine for any neighborhood. Wholesale arrests had been made, with the two factions herded into cages. Yea, and care was taken that no man was put into the wrong cage.

The presiding justice was a hard-boiled Federal, and his instructions were strict at all times that there were to be no pictures in the court room. Joe and his partner were in court early. As the Chinamen were brought in and stowed in the cages the two men prepared to jump. The judge had not arrived. Joe had quickly laid his glass and his assistant had been told to grab the tripod

and run to one exit, while Joe with his equipment took to another, in case the judge entered.

Then suddenly the judge did just that, even as the exposure was made. He saw the tripod and camera going through one doorway and the rest of the equipment going through another.

"Stop those men!" he shouted, "Arrest them and bring them back here!"

But the two were through the doors and tearing up the street toward the American office. To the inquiries of pursuing but friendly policemen there were retorted replies that hardly could be relied on. When Joe arrived at the office out of breath the city editor was waiting for him.

"Too bad, Joe," said the latter, "But the judge has just phoned me that if that picture is printed you will go to jail for contempt. And he may decide to send you anyway."

"Well," remarked the staff photographer, "he can't do anything to me for printing it, anyway."

The negative was developed and printed and proved to be a rare picture, showing the faces of scores of thoroughly frightened Chinamen. The regular court reporter returned to the office and saw the photograph.

"Let me have that picture," he remarked. "I am going to show it to the judge. I have an idea we may use that yet."

The judge looked long and hard at Joe's picture. "That's a pip of a shot," he admitted. "I'll tell you what I'll do with you boys," he added deliberately. "You get me a big enlargement of that picture for my chambers here and you may print the shot."

"That will be quite easy, your Honor," said the reporter as he grabbed a telephone.

Eight Years on Paper

For eight years Ruttenberg was on the Boston American. Then he was tempted to accept an offer from the Boston opera company to come along as staff photographer. One of the first assignments was to accompany the troupe to Paris. On his return from abroad he became interested in motion pictures.

His initial effort in that direction was inauguration of a New England news reel, of which he supplied 1000 feet a week for the Loew theatres in Eastern New England. For this work he built his own developing plant.

Ruttenberg was drawn away from the news reel by an offer to join the Fox Film Corporation in New York. Here he remained ten years. One of the pictures he photographed while on this long affiliation was the famous "Over the Hill" in which Mary Carr became famous.

Another picture was Hutchinson's "If Winter Comes." For extensions of this subject he journeyed to Canterbury, England, where a majority of the shots were made. A few were also exposed around London.

Then there followed the formation of a screen test plant, in which it was his idea to take screen tests of competent stage players and submit them to the studios. In the short time in which he was operating this studio he made tests among others of Claudette Colbert, Sylvia Sydney, Margaret Sullivan, Helen Hayes, Paul Huns and Walter Huston.

In Hollywood 3½ Years

Three and a half years ago Ruttenberg came to Hollywood. He made one picture, "The Manhunt," for Warners. Then he went to M-G-M, where incidentally he had never worked before—and where he has worked exclusively since.

Among some of the pictures he has made there are "Three Godfathers," "Fury," "Piccadilly Jim," "Day at the Races" with Marx Brothers, "Three Comrades," and "Shepherd of Angels."

When the cameraman was asked the location of the sequence for the Vienna woods in "The Great Waltz" he smiled. "That was a pretty location, wasn't it?" he answered. Although liberally the country over was hunted to find such a place eventually it was spotted within forty miles of Hollywood.

Asked if he had any preference between interiors and exteriors the cameraman replied that in the interiors light was the more easily controlled. He expressed the opinion that with the fast film now available better results would be secured on medium shot exteriors and closeups by making their interiors so long as there were no panoramas.

He cited the instance of "Three Comrades," wherein the very nature of the panorama of great mountains of snow made work with the camera practically impossible. Here he pointed out with proper scenery realistic results were obtained.

The cinematographer left no doubt as to his appreciation of the co-operative assistance given him by his crew. Those were Herbert Fischer, operative cameraman; B. King Kaufman Junior, assistant; Paul Keeler, gaffer, and Lee Mellon, grip.

Victor Price Reductions

Victor Animatograph Corporation, Davenport, Iowa, recently announced substantial price reductions on 16mm silent projectors.

The Model H Master Projector, formerly listed at \$148 complete with case, is now priced at \$125, with case included. If 750 watt lamp and fast F1.8 lens are desired in place of the 500 watt lamp and F1.85 lens supplied as standard equipment, the price is \$132.50.

The Victor Model 22 (1600 foot film capacity) has been reduced from \$187.50 to \$175. This is a "blimp" model which is included in a case during operation. Standard equipment includes 750 watt lamp and Bosch F1.85 lens.

STILLS FROM 8MM. FILM

By ROBERT W. TEOREY



Reined from 8mm. film was this still of Tokyo schoolboys in military uniform.

AN achievement worthy of the efforts of every moviemaker is the building of a contrivance to enlarge still prints from their moving picture scenes. Not only can the pictures be added quite creditably to the family album but they can be put to a use quite valuable in cine filming, and that is for title backgrounds that actually tie in with the scenes described and is which related scenes work in with admirably.

The old saying that necessity is the mother of invention is one with which I heartily concur. Recently desiring several 8mm enlargements I sought for some one to make them for me. Failing in my efforts I decided to make the means to enlarge my own, which brings me back to my earlier remark about necessity and invention.

Removes Condenser Lens

In contriving my enlarger the first consideration was a method to project an image on ordinary roll film to produce negatives. Experimentation with photoaid bulbs and various magnifying objectives convinced me that my movie projector would be the quickest and most satisfactory medium if I could adapt it to projecting a still picture without the film burning as seen as the heat screen was opened to permit a clear passage of the light beam.

I discovered the solution at the very beginning by removing the condenser lens which is immediately in front of the lamp. Inserting a length of 8mm. film into the projector gate I next disconnected the spring belt from the motor to the claw operating mechanism to prevent the film from being advanced and then raised the heat screen within the lamp house with a piece of fine wire.

The lamp and the motor which now was only operating the cooling fan were switched on and a brilliant image from the test strip of movie film was projected for several minutes with no apparent harm to the emulsion.

Projection difficulties having been eliminated, the next decision to be made was the size of picture to record. I quickly accomplished this by projecting a picture on a near wall and moving the projector forward until I had secured an image slightly less in width than roll film size 116.

I estimated this would provide me with a negative approximately 2½ by 3½ inches in size, which I deemed about right considering the great amount of magnification necessary to produce a negative of that dimension from an 8mm. frame.

Measuring from the wall to the lens of the projector, an Eastman Model 38,

I found the distance to be slightly less than 18 inches. This figure served as the basis for the construction of my 8mm. enlarger (Fig. 1).

The description of this contrivance will be merely general and not deal with actual measurements as various projectors, 8mm. as well as 16mm., would necessarily require variations in the dimensions of the segments used in building a similarly operating device.

Projects Still

Baseboard and uprights were sawed from a long piece of pine lumber three-quarters of an inch thick by 12 inches wide. The base had sufficient length for mounting the projector on one end and attaching the film holding upright to the other at the distance from the lens previously figured to give me the size negative desired.

The height of the end upright was determined briefly by placing the projector in position and holding the standard in place at the opposite end of the base, after which I projected a still picture which I carefully centered with the framing device.

I then outlined the illuminated area with a lead pencil and allowing a three-quarter inch margin at the top for the upper cross piece of the film holder I cut

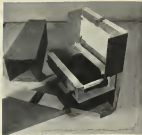


Left, Figure 1, enlarger complete and ready for operation. Right, Figure 2, Shifting tube and shutter removed.





*Left,
Figure 3,
end upright
with film
holder
lowered
for loading.
Right,
Figure 4,
Shutter
upright
and shutter
in place
for exposure.*



the upright and secured it to the end of the base. (Fig. 3).

The roll film holder was cut from a piece of soft wood three-quarters of an inch thick by 1½ inches wide and when finished consisted of a frame in the form of an H with two cross bars. The area between the bars or uprights of the frame measured 2¼ by 2¼ inches or the size of the negative to be exposed, while the margin at each end had sufficient room for the full roll and take up spool. (Fig. 3).

The two uprights in the frame were slightly longer than a 116 film spool and were inset about an eighth of an inch to allow space for the film and for thicknesses of cardboard secured to the frame holder to act as a pressure plate. The frame was next drilled at the film spool locations to accommodate cut-off nails or bolts which served to hold the spools in place.

Identical Alignment

The threaded end of a large belt with a knurled top was filed flat to enter into the slot of the take-up spool, thus making it quite simple to wind the exposed film on to the empty spool.

Two small hinges on the bottom of the frame served to fasten it in place on the end upright, while a catch or hook at the top held it secure and facilitated in opening the assembly for loading with film.

Next placing the projector in position on the base I switched on the lamp and carefully aligned the image within the film holder. When centered to my satisfaction I nailed strips of wood snugly about the projector base to assure identical alignment each time the device is used.

The shutter upright (Fig. 4) is of the same height as the film standard. An oblong aperture was cut in it with a scroll saw just opposite the projector lens and large enough to permit unobstructed passage of the projected image.

Heavy cardboard served as the material for the shutter and means to hold it in place. The shutter was cut snugly wide to cover the hole in the upright and a slot was cut in its center with a razor blade to permit the registration of the image on the film when pushed across the upright opening.

Two layers of cardboard—the upper

one overlapping the shutter—served to hold it in place at the top while a similar arrangement held it in place at the bottom. The oblong drawn in ink on the left surface of the shutter served merely as a framing guide as each new scene was inserted in the projector gate.

Excluding Stray Light

To eliminate chance reflections from sources near the passage of light from the projector I covered the opening in the forward upright with India ink as well as the adjacent area to the slot in the shutter and within the film holding frame.

Strips of cardboard were tacked on to the carrier and about the rear upright to exclude stray light emanating from the lamp housing. To prevent possibility of light from this source fogging my negative during projection I made a tube from cardboard which could be

(Continued on Page 45)

*Left, Hula girls interpret native legends in Honolulu. Right, Every Chinese appears to be a burden bearer in Shanghai. Raised from *Isan* film by writer.*



INSTANT ACCEPTANCE

NEVER before have new negative materials been as enthusiastically received...as quickly put to use...as Eastman's three latest motion picture films. Fast, fine-grained *Plus-X*, for general studio work...high-speed *Super-XX*, for all difficult exposures...ultra-fine-grained *Background-X*, for backgrounds and all-round exterior work...Typically *Eastman* in uniformity and photographic quality, these films have won instant acceptance in the industry. Eastman Kodak Co., Rochester, N. Y. (J. E. Brulatour, Inc., Distributors, Fort Lee, Chicago, Hollywood.)

EASTMAN *Plus-X*...
Super-XX*...*Background-X



SEVERAL factors contribute to making this picture of Warner Brothers' ace cameramen an unusual photograph: Among these are the fact that in these ten new Studio Model Mitchell cameras rides one hundred thousand dollars worth of equipment, what is believed to be

the most modern aggregation of cameras in the world; that it is a rare occasion indeed when eleven directors of photography can be assembled in any one group in any studio—there are believed to be too many tied up either on a stage or on location. Even this notable group is not



complete roster of the studio contract list. At here are those who are present: Front row, left to right: E. B. McGreal, camera and still department head; Charles Rosher, A.S.C.; Ted McCord, A.S.C.; Arthur Edeson, A.S.C.; James Wong Howe, A.S.C.; Sol Polito, A.S.C.; Bun Has-

kin, A.S.C., special effects department head. Rear row, left to right, Sid Hickox, A.S.C.; Warren Lynch, A.S.C.; Arthur Todd, A.S.C.; Lou O'Connell, A.S.C.; Ernie Haller, A.S.C.

The excellent photograph was the work of Clifton L. King.



The Garden setting, featured players Frank Biggs and Betty Warner are shown with Cliff West, Joan Biggs and Winifred Coffey. This setting, with its genuine water pond and fountain, was constructed in the studio. Fore-ground manuremen were used.



At work on a shot on the Cottage Bedroom setting, J. Matthews (camera), Ben Carleton (Director) standing at rear, M. Fowler (Settings) seated on dolly and featured players Frank Biggs and Betty Warner. The tripod and dolly shown were specially constructed to the design of Ace Movies Cameraman J. Matthews.

ACE MOVIES OF ENGLAND MAKING "THE MIRACLE"

WE HAVE received from S. J. Matthews, honorary secretary of Ace Movies of Wimbledon, England, an amateur organization founded in 1929, the accompanying stills which show the cast and crew at work on "The Miracle." Mr. Matthews remarks in passing that the members of the club are looking forward with much interest to seeing Hollywood's professional version of "The Miracle," featuring Bette Davis, when that subject is released in England.

Unquestionably there will be marked interest among ama-

teurs everywhere in the tripod and dolly specially constructed to the design of the club's cameraman, J. Matthews.

There also will be abundant interest in the sets and lighting equipment, in the manifest preparedness that attends and precedes the actual shooting, and in the general motion picture atmosphere that surrounds the players.

We feel entirely safe in prophesying a finished picture that will be good to look upon—and one that will be a credit to the more advanced in the craftsmanship of motion picture making.

Featured player, Betty Warner, on the Dining Room set.

At work building the Dining Room setting: J. Matthews (camera) Ben Carleton (Director) and J. Swann are shown. The air compressor in the foreground is for spray painting.

Featured player, Frank Biggs, on the Cottage Bedroom set.



CINÉ-KODAK SUPER-XX

Eastman's New and Fastest Home Movie Film



If yours is a 16 mm. camera, this new Eastman super-speed film will more than double your picture-making range. Over four times as fast as regular Ciné-Kodak "Pan" . . . more than twice as fast as Ciné-Kodak Super Sensitive Pan, Ciné-Kodak Super-XX makes an *f*3.3 lens the equivalent of an *f*1.9 with regular "Pan." And, with

an *f*1.9 lens and Super-XX, you can make movies that have not, until now, been possible.

For example, with an *f*1.9 lens, you can make good close-ups indoors with two regular 50-watt light bulbs 2½ feet from the subject—one bulb, if in a reflector. Three 50-watt bulbs in reflectors supply sufficient illumination at *f*3.5. With Kodaflector, two No. 1 Mazda Photo-Floods 14 feet from the subject provide ample light for filming at *f*3.5.

When Lighting Is Not Controlled

The extreme speed of Ciné-Kodak Super-XX is even more valuable when you have no control over the illumination. You can shoot indoor wrestling matches, hockey games, skating exhibitions, basketball games, stage shows—some with telephotos or in slow motion. Outdoors, you can make movies much earlier and later in the day . . . on dark winter days . . . on cloudy and rainy days. If the sun is bright, however, a neutral density filter (N.D. 2) is needed over the lens to prevent extreme overexposure. This filter, with a factor of 4x, reduces Super-XX to the equivalent of regular "Pan" and the exposure guide on the front of each Ciné-Kodak can be followed.

Load your camera with Ciné-Kodak Super-XX and make movies that you have never been able to get before. It costs the same as "88 Pan"—full exposure instructions are packed with the film. Prices: 50-foot rolls, \$4; 100-foot rolls, \$7.50; 50-foot magazines and packets, \$4.25. Prices include processing.

FOR INDOOR MOVIES IN COLOR

Use Ciné-Kodak Kodachrome, Type A. It is remarkably fast and you can get wonderful results easily with Kodaflector, Eastman's 65 featherweight lighting unit. Type A Kodachrome is especially color-balanced to give true color reproduction when used with Photoflood light—can be used outdoors in the daytime with Type A Kodachrome Filter for Daylight. Prices for Ciné-Kodak light, \$9.25; for 16 mm. cameras, 30-foot rolls, \$4.75; 50-foot magazines and packets, \$5; 100-foot rolls, \$9—including processing.



The subjects shown above are typical of the scenes now easy to film with the extreme speed of Ciné-Kodak Super-XX.

EASTMAN KODAK COMPANY, ROCHESTER, N. Y.

Frosty Filming

(Continued from Page 14)

The snowshoer, walking in and out of scenes, provides a thread on which to hang continuity. Occasionally, he may pause to rest and look out over the surrounding hills. From such close-ups, jump to long shots of other winter scenes you may have collected, returning to the snowshoer once more as he hits the trail.

For a rustic team title introducing such a film, lay out jagged black letters on a pair of snowshoes, or tack the letters on a log background. The use of kodachrome instead of monochrome film will add immeasurably to the beauty of such scenes.

If your locality permits ice angling, you will find that this winter sport will present more camera fun than all of your brook trout or wiskey fishing excursions. You might open such a film with close-ups of chips flying as the chisel bites the ice.

Come the first gurgle of lake water, and finally the hole is skimmed clean. To reveal an extreme closeup of looking on a lively minnow, swing the camera on the side tiller, and shoot with the title card holder flash against the scene. The auxiliary lens of the triller furnishes rising startling closeups. In fact, some amateurs use the triller more for this purpose than for tilting itself.

Provides Good Material

You will want close-ups of some of the odd-shaped, homemade fishing sticks and other unusual angling paraphernalia carried by these "frozen fishermen."

To carry on the continuity, film fishermen walking out on the ice, hopeful and anxious, while others, leaving, look down-trodden and sad, but still hoping that new waters will produce better luck. The winter angler provides excellent material for a one character study, the sort of thing which few amateurs have ever attempted.

The rabbit hunt and the deer chase rank high among action footage grab-

bers, while filming the snow tracks of small game and bird life is also a pleasant diversion from the usual run of winter shooting. A heavy filter and a low hanging sun to shadow the depressions are most essential for properly recording wildlife footprints.

If you really want to match wits with animal cunning, follow a fur trapper with your camera as he sits out on his line. Incidentally, a winter trapping film is *Ran or Blown*, showing methods of taking mink, muskrat, skunk or otter, would be both educational and entertaining. How many amateur cinematographers of your acquaintance have ever attempted such a thing?

Cold weather filming calls for even greater care of camera equipment than in summer months.

Beware of Temperatures

Don't subject film or camera to extreme temperatures. Keep your camera in a fairly warm place. If you leave it outdoors for any length of time, even overnight, chances are that its operation will be impaired by the chilling it receives.

If a cold camera is brought into a heated room, it will frost and "perspire," and no filming should be attempted until the motor is running normally and the foggy lens has cleared.

If you carry your camera without benefit of case, tuck it under your warm jacket when not in use, and cup the palm of your hand over the lens to keep out the snow during the furries.

Outdoor snow movies at night take on added charm when lighted with photo-flood or flare. To prevent flare light from hitting the lens, use a half-moon-shaped reflector on a last year's tripod, or place the flare itself behind and to one side of the camera stand.

For striking silhouettes, place your sking subjects at night on the crest of a snow-topped hill. Take a camera pos-



Left, Footprints of wild animals or birds in snow furnish excellent movie studies. Right, Follow up your outdoor sports action with indoor cabin shots under photo-flood illumination.

ture half way down the slope on one side. On the other slope, hidden from the camera lens, strike off a flare. The back-lighted figures in motion will probably become one of your most treasured sequences.

If you lean toward artistic lines, try backlighted shots of snow crystals on window panes or weird shadows on the snow at night. Branches frosted with fresh snow or heavy with frozen sleet, as well as oddly formed icicles, make excellent subjects silhouetted against a well-filtered sky.

Bureau of Mines Produces Four Educational Pictures

The story of the production of copper, one of the most widely-used metals, is interestingly revealed in four new educational motion picture films made under the supervision of the Bureau of Mines, Department of the Interior, in cooperation with one of the larger mining companies. The methods and processes employed in the mining, leaching and concentration of the ore and in smelting and refining operations are depicted.

The films, of the silent type, are the latest additions to the film library of the Bureau of Mines, which is the largest of its kind in the world. "Copper Mining in Arizona" is the title of a film of three reels.

Copies of these films, in 16mm. and 35mm. sizes, are available for exhibition by schools, churches, colleges, civic and business organizations and others interested. Applications for the films should be addressed to the Bureau of Mines Experiment Station, 4860 Forbes Street, Pittsburgh, Pa., and should state the width of film desired. No charge is made for the use of the film, although the exhibitor is expected to pay transportation charges.



Captain Philip arrives to claim the land for England

SHERLOCK WINS TWO IN A ROW

FOR the second time in a row James A. Sherlock entered a film in the contest of the American Cinematographer. And for the second time in a row he won the grand prize with "Nation Builders." In each case the theme was his home, in the first place, that for 1937 in Sydney the city and in the present one Australia the nation.

Last year the subject was "The Ships of Sydney." In it the producer showed all manner of craft, from small sailing yachts to great liners. He began in the morning, before daylight, to do his filming. And when the sun finally started on its way into the sky it was through a heavy fog. Not to be outdone by a subdued Sol, he photographed the fog, showed it as it nearly hid the sun, and as the sun broke through, and as a result secured one of the most effective scenes in the subject.

Three thousand feet were exposed in the 1936 film, but the final cutting was in 900 feet.

The picture last year was in Kodachrome, whose this year's was in black and white. "Nation Builders" was to the man who produced it and to the men and women who helped to make it more than just another picture. To him

and to them it was a labor of love. It was more than that. It was a labor of patriotism, for behind the men who made it was always the dominating thought of that for the first time in history their continent contained one nation, one people, one destiny.

That their fellow-citizens in Sydney saw the picture in the same spirit is indicated by the action of the members of the Royal Historical Australian Society and the Ship Lovers' Society at a showing of the film at Science Hall on the evening before its shipment to Los Angeles for the contest.

Government Should Take It

"This film should be acquired by the Government," declared Doctor Mackenzie, when moving a vote of thanks to Mr. Sherlock. "It should be shown in all our schools."

The Royal Historical Society bestowed its blessing on the film and promised the producer it would forward him a letter to that effect, a copy of which will be attached to the film.

The following is from a letter to the editor written by the producer explaining some of the steps in filming the production.

At the beginning of 1938 the Australian Nation celebrated its 150th birthday with decorations, processions, reviews, fireworks and their plannor and merriment. The newspapers devoted much space to the history of Australia and brought home the realization that this continent of ours now contains one Nation and one People, this happening in 150 years.

What a subject to film for an Australian cinematographer, especially if one is interested in history and could resist the temptation of filming the decorations, etc., previously mentioned!

"Nation Builders" is my effort to catch the breath of past pioneers.

It opens with surf rolling toward the camera. This was an early morning, back lighted shot with the sunlight silvered on the waves, but filtered with a 3Ns screen.

Captain Cook was the first Englishman to land in this country and emphasis is laid on the difference between civilization and the most primitive of people by showing the shoe marks of Cook and the bare foot marks of an aboriginal.

Very low afternoon lighting was essential here to get the texture of the sand. The abo is seen crouching, watching the landing party, and after the party pushes out to sea, the aboriginal is seen comparing his foot marks with those left by Captain Cook.

Darky Wants Money

My first difficulty arose during this opening. It was made on a lovely beach about a mile away from the actual spot where Cook landed, and the darky refused to take his trousers off till I had to argue, coax and increase his fee by



Governor Phillip

two shillings. Such is civilization of all the characters this, and one other, are the only ones who received cash for helping me.

The landing of Phillip and the founding of the colony was filmed from a pageant during the celebrations. This is an elaborate scene and was shot from a stand erected for two newswired cameras. By a great favor my Filmao was allowed to record this historic, re-enacted scene.

The stand was about 34 feet high and looked down on the set at an angle from which no onlookers could be seen, and by using my turret head camera and three different lenses a few close-ups were possible.

Great hardships were suffered by our first settlers. This is shown by a title "Treason" fading in at the base of three h-trees and more breakers, this time in a turbulent mood. The first successful farming was done by one James Ruse. A replica of his plough was copied from one in our Museum.

A hole dug in the ground permitted a few intimate close-ups as the horse, ploughman and plough came near the camera. For this and several later scenes I am indebted to the farm manager of the Hawkesbury Agricultural College and his pupils. The farmer and most other characters were chosen because they were types.

Instruments Authentic

The letter written by Governor Phillip was copied from the original, "Governor Macquarie—Road Builder" . . . This sequence was filmed in two parts. The first shows an early surveyor, a convict and the Governor. An old theodolite, dated 1818, was borrowed; Governor Macquarie enters the scene, talks to the surveyor, who points to the road builders.

The second part is cut in here. A

road was being built and it was not difficult to borrow a few tools and put some of my friends to work in the foreground as I used close-ups of them.

The bridge building scene is one where an old bridge was being demolished. The ganger allowed his men to spend a quarter of an hour making the half-demolished bridge for me.

The first exploration party was filmed at a few spots on the actual path where the Blue mountains were crossed. The costumes used in this and throughout the picture are authentic. Even the convicts' costumes were studied and it was found that only a very small percentage were clothed in suits marked by broad arrows.

Aggy College Men

The map used in the film was of black felt cut after the manner of a jigsaw and placed over a relief map. Thanks to the rich blackness of Filmao, panchromatic film the joints are not seen. The scrolls showing the explorers' names were made in two pieces, one part painted on the base and, at each alteration of name, a new piece was placed in position.

The cavalcade of sheep men was filmed with the help of the students of the Hawkesbury Agricultural College and their very good manager. Covered wagons were the exception to the rule here in Australia.

William Charles Wentworth's garden party was part of our 150th Celebrations. This was filmed from a high elevation to again exclude onlookers.

The great war period was difficult to portray. This is shown by close-ups of actual newspapers printed at this period. A G filter was used to lighten the aged paper and I was fortunate in getting permission to film this in the studio of the Sydney Sun office. Twenty-five thousand candle power of light was employed, which allowed me to use a heavy filter and close the lens down to F.8.

The return of our nation to peace is shown by the building of a dam and the interior of a steel works. A detailed sheep shearing sequence has been added and the film finishes on aspects of City Life.

Kodak Panchromatic film was used throughout, as Kodachrome is not al-



Governor Macquarie

ways even in colour values and mistakes were impossible in most cases. Great assistance was given by various members of the Australian Amateur Cine Society.

The stills enclosed are from the Graflex camera of Eric Morten, a member of our Cine Society.

Durst in Hollywood

Recognizing the importance of the program which is being sponsored by the studios in connection with the general improvement of sound reproduction and picture projection, the International Projector has assigned Jack Durst as its factory representative in Hollywood. Durst has been identified directly with the development of the new Simplex Four-Star Sound Equipment.

Durst will cooperate with the various Academy Technical Committees with the interest of carrying through to equipment design those features and facilities which insure better presentation of sound and pictures in the theatre.



Hargreaves, Lieter and Tom discover gold



Surveyor in period of Governor Macquarie

Telco Begins Production

By IRA B. HOKE

AS DRAMATIC in its inception and as replete with thrilling incidents in its growth from a dream to a reality as any movie script is the story of Telco, newest of Hollywood's small family of natural color producing laboratories.

From Hollywood to New York, then to Florida, and finally to Hollywood again, the scenes of Telco progress were rapidly shifted under the master hand of Robert Hoyt, former Massachusetts Institute of Technology student and later a Hollywood picture producer, until today they present not only a drama of business achievement, but the company's first processing of a feature length story in natural color as well.

Robert Hoyt, who needs no introduction to Hollywood, where he has been known as a moving picture producer and technician for years, heads Telco as president and general manager.

Dr. Albert Fiedler is in charge of the laboratory staff. He is an old friend of Hoyt's and laboratory supervisor on many Hoyt productions. He is a graduate of Columbia University school of chemistry and received his doctor's degree at the University of Berlin. His entire career has been centered upon motion picture raw stock and laboratory work.

All other members of Hoyt's staff of film technicians and office executives have been chosen for their particular fitness and adaptability to the positions they hold.

The Process

Telco derives its name from a construction of two words, telescopic color, which aptly describes the remarkable results now on the screen under that trademark. Telescopic, or may we say stereoscopic, to a surprising degree are the scenes of Telco's feature picture, "Lure of the Wasteland."

Because of an absolutely flawless,

sharp focus, from foreground to background, the many color tones of this process give the observer the maximum of perspective and illusion of reality.

While technically Telco is a two-color process, using any standard bipack negative stock, the printing process shows not only an astounding range of color tones but definite blacks and whites as well.

Compact Laboratory

Telco prints on standard double coated positive using a specially designed printer. The processing is done completely by mechanically controlled methods, and it is its claim, therefore, that no variation from one print to another is possible.

The laboratory at 1287 North La Brea avenue is remarkable for its compactness. Capable of printing and process-

ing from 15 to 20 thousand feet a day, it owes its small size to a principle quite different from accepted methods.

Each step of the developing and drying process is carried on in thermal and mechanically controlled individual tanks, communicating with one another to form a continuous ribbon of film from the printer to the winding reels at the dryer door.

These machines are insulated and sealed from the workroom and carry within themselves individual temperature controls which, according to Telco technicians, insures exact and efficient operation within a comparatively small area of floor space.

The machinery and processing tanks to the minutest detail were built by the present laboratory staff.

Use Standard Camera

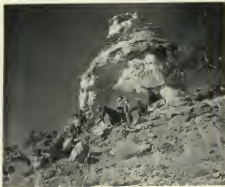
Any standard 35mm camera adjusted for bipack may be used to make negatives for Telco. Lighting of any type that gives a brilliant, well balanced double negative furnishes this process the required nucleus for its prints.

Make-up of actors may be of any accepted panchromatic type, and judging from results now on the screen well balanced flesh tones are assured.

First Picture Snappy

The company has just completed prints for a feature length musical western under the banner of Al Lane Pictures Inc., which demonstrates the efficiency of their process and fidelity of their color.

Starring Great Withers, directed by Harry Fraser, this picture is commendable not only for its excellent color



Black and white still from "Lure of the Wasteland," the first color production by Telco. The scene of the natural bridge to the Kanab Bluffs in Utah.

rendition and almost stereoscopic separation, but also for its fast action, catchy plot and beautiful scenery.

The exteriors were photographed in the red bluffs of Kanab, Utah, a territory rich in western legend and well adapted to color reproduction.

Painful sound recording is doubtless due to Telco's method of printing a black and white track of definitely good quality.

The camera crew—Francis Corby, A.S.C., supervisor of photography; James Palmer, camera operator, and Lester Shore, assistant—is responsible for a well photographed production, although

at times they were forced to work under trying conditions. For instance, the Kanab bluffs became so cold during the filming of exteriors that the camera had to be heated continually to keep the oil from congealing and so stopping the mechanism.

Laboratory a Beginning

The present laboratory, while a producing unit, is designed to meet immediate production demands only. Detailed plans have already been drawn for a complete processing plant capable of many times the daily footage now possible.

GORDON HEAD COMPLETES ACTION PORTRAIT CAMERA

AN amazing new photographic instrument, called by its designer the "action portrait camera," was introduced to Hollywood in December. The new camera, which embraces some revolutionary principles, is the creation of Gordon Head, Paramount still photographer, who used it for the first time on "Cafe Society," shooting pictures of Madeleine Carroll on a speeding aquaplane.

Speed is the great advantage of the new camera—not only more shutter speed, but speed in posing pictures and arranging composition.

The flowing black cloth, familiar to everyone who has ever had his portrait taken, is abolished by a completely new type of finder. That is more significant

than the layman may imagine. Here's the procedure with the ordinary portrait camera—

The photographer steps down his lens, sets his shutter. Then he must line up the people in the positions in which they are to be photographed, ducking repeatedly under his black cloth and out again, meanwhile adjusting his camera to the proper range.

Procedure Simplified

While the subjects remain absolutely still, the cameraman then has to insert his plate in the camera and pull out the slide before taking the picture. If anybody in the group moves, or the camera is jiggled ever so little, the picture will come out blurred by movement or out of focus.

General Manager Hoyt believes this new laboratory will be completed none too soon to care for the increased demand for natural color pictures that is undoubtedly growing far faster than the average observer believes.

He says the 10 to 20 per cent increase in price of Telco prints over ordinary black and white will be considered as trifling when compared to the manifold box office values of color.

Although no definite location for the new plant has been selected, Telco executives intend to establish themselves in the San Fernando valley within easy access of the major studios.

With the Head "action portrait camera" this procedure is simplified to this—

All adjustments to lens and shutter are made, and the plate is inserted and the slide removed. Peering through his special finder, Photographer Head poses his subjects, simultaneously adjusting for range—and the moment the people are lined up as he wants them, Head snaps his picture.

The patented finder is the secret. It enables Head to see just what he is going to get on the plate while the plate is in position for immediate exposure. Too, it gives a more accurate image, because the cameraman looks right through the lens, instead of through a series of prisms, thus eliminating the possibility of distortion.

With this new camera, which takes a plate 8 inches by 10 inches, it is possible for the first time to take action pictures of such size with the same convenience as a candid camera affords, yet obtaining the same high quality negative as a portrait.

8 by 10 at 1/2000

When Head shot stills of Madeleine Carroll on an aquaplane being towed by a speedboat at 45 miles an hour, he used the fastest shutter on any camera in existence, excepting only those precision instruments in use in scientific laboratories. It is an airplane mapping camera lens, and the variable opening focal plane shutter has a speed of 1/2000 of a second.

Mounted on a tripod, the "action portrait camera" can be "panned" just like a movie camera, enabling the photographer to follow rapidly moving objects.

With the camera case built of durable but light airplane metal, the new instrument has the additional advantage that it weighs only a fraction of the poundage found in other 8 by 10 cameras and can be carried or moved about with ease.

Into the construction of this marvel Head has put \$5000, eighteen months of actual work and ten years of thought. Hollywood camera experts say it was worth it.



Gordon Head, at right, with 8 by 10 speed camera he has perfected across the last ten years. Charles Long, A.S.C., at left, looks interestedly at the mechanism.

Art Reeves Offers First Independent Rerecorder

RECORDING or "dubbing" has long been a salient part of Hollywood's studio sound technique, but to the many theatrical and commercial producers elsewhere who depend upon independently made sound apparatus it has been a problem, since no independent rerecording equipment has been available.

Therefore, the announcement of what is believed to be the first independently made complete rerecording outfit is of considerable importance.

The new rerecorder is a product of the Art Reeves Motion Picture Equipment Company of Hollywood, and is designed to coordinate either with that firm's recording system or with any the user may own. The unit comprises a distributor set to power the necessary interlocking motors driving projectors, rerecorders and recorder; three rerecorders or film phonographs; an AC power panel; a main amplifier with extended mixing panel and extended volume indicator; and interlocking motors to power two projectors, one recorder and three rerecorders.

In operation the synchronous driving motor of the distributor is connected to any convenient AC power source. This motor in turn drives the distributor, which supplies three-phase alternating current to excite the rotors of the motors driving the rerecording equipment.

Electrically Interlocked

The fields are electrically interlocked, as are the various rotors, so that, when the distributor rotor turns, the rotors of all motors revolve synchronously.

The rerecording heads or film phonographs are constructed entirely in the Reeves plant, and are fitted with an adjustable damping mechanism to assure uniform film travel. The exciter lamp slides in and out on a demountable plastic base, and is so constructed that sliding the unit into place automatically establishes the correct electrical connections.

For changing or removing lamps no wires need be connected or disconnected. The photocell pick-up is completely enclosed so that no door is necessary over the film-movement head to make threading and inspection difficult. The film used may be run between reels in enclosed magazines, or a supplementary

filing used to permit the use of a loop for background sound effects.

For driving this unit a standard slip-on motor mount is fitted, so that either the synchronous motor regularly supplied may be used or any standard camera motor fitted.

The opposite end of this shaft is extended beyond the housing so that a line of the machine may be connected to a single power supply to operate as a multiple battery, or any special motor may be fitted. The device may be used on the set for playback and pre-scoring uses.

The amplifying system is powered by

an AC power panel which supplies current to all units except the driving motor, which are powered by the distributor, and the exciter lamps of the sound heads, which must be powered by direct current.

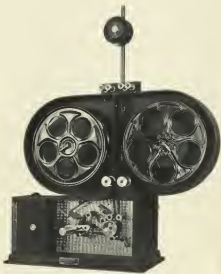
Own Monitoring System

The main amplifier is of the usual Reeves high-fidelity type, and fitted with its own monitoring system.

The extended mixing panel includes a four-position mixer. Two of these positions are fitted with pre-amplifiers so that they may be used for direct recording with dynamic microphones. All four positions may be used with projector pick-ups, rerecorders, and the like.

All positions have complete equalization, both up and down. There are two master volume controls, and the volume indicator is of the extended type, which may be placed at a distance from the control panel, as may be desirable.

Both this unit and the extended mixing panel are planned so that in rerecording the operator will have only the minimum of eye movement between following the picture on the screen and watching his mixing dials and indicators.



FIVE years ago, through a combination of circumstances he is not even yet quite satisfied to concede he is altogether responsible for, Armin Fried of the Fried Camera Company of 6156 Santa Monica Boulevard, Hollywood, found himself in the position of the man in the song, "all dressed up and no place to go."

For twenty-three years he had been going places, right in Hollywood. In fact, quite well already he knew his way around. Reckless since leaving Cacha-Slovania he had made it a point primarily to acquire information—about several things.

Two of those stood out. One was the English language and the other was mechanical engineering. He admits it would have been simpler had he been able to take two bites at that cherry rather than take it at just one.

But let it be said in the beginning Armin Fried acquired his English. And when he had whipped a simple vocabulary, had secured one on which a majority of men are quite content to rest their tongues and accidentally their conversation, he dug as more deeply, into the supplementary or complementary division. And when occasion arose those supplementary words rode at the tip of his tongue.

But we were speaking of five years ago. He had just resigned from his job at the head of the motion picture tech-

BUILDING BUSINESS IN FIVE YEARS

nical department in the Fox Studio. There he had done many things, as his title implied. But repairing and keeping in up-to-the-minute order all the cameras on the lot was second in importance to no other job that fell to him.

To Go Into Business

His bent being on the side of creating, from the ground up, rather than re-creating or repairing someone else's equipment, he decided to go into busi-

ness for himself and see what would happen.

Quite a lot has happened in the five years. The Fried Company now announces itself as "Manufacturers of complete 28mm. and 16mm. Laboratory and Photographic Equipment."

Making good on that statement is the following list of standard designed and equipped machines: Continuous contact printers, registration step printers, li-

(Continued on Page 56)

Combination
28mm. and
16mm.
Fried developing
machine,
showing
apparatus in
elevated position.



Engineers Name E. Allan Williford as 1939 President



E. Allan Williford
New President
SMPE 1939

THE Society of Motion Picture Engineers at its recent semi-annual convention in Detroit named E. Allan Williford president for 1939. The new chief for eighteen years has been with the National Carbon Company. At present he is manager of the Carbon sales division.

Other officers elected are Nathan Levinson, executive vice president; Arthur S. Dickinson, financial vice president; John I. Crabtree, editorial vice president, and William (Bill) C. Kuzsman, convention vice president.

J. Frank, Jr. and L. W. Davies were re-elected secretary and treasurer, respectively. Loyd A. Jones continues in office for another year as engineering vice president and R. E. Farnham, A. C. Hardy, and H. Griffin as governors.

The new executive vice president is re-elected director of Warner Brothers First National Studios in Hollywood, and has been very active in Hollywood technical affairs. He is vice president of the Academy of Motion Picture Arts and Sciences, chairman of the technical branch, and vice chairman of the Research Council.

Loyd A. Jones, A.S.C., engineering vice president, is a well known expert

of the Eastman Kodak Company of Rochester, with which company he has been connected for the past twenty-six years, being chief physicist since 1916. He is a highly recognized expert on the subject of photography and sensitometry and has done much research work in physical optics, illumination, colorimetry, etc. He has to his credit many publications in scientific journals.

John I. Crabtree, re-elected editorial vice president, was president of the society in 1930-1931, and has served as editorial vice president for the past five years. Mr. Crabtree was awarded the Progress Medal of the French Photographic Society in 1934 and he has published many papers on the subjects of photography and sensitometry.

William (Bill) C. Kuzsman, convention vice president, has been associated with National Carbon Company at Cleveland for thirty years. He was graduated in technical engineering from Akron College and joined the National Carbon Company's research and sales department in 1907.

Washington Not Planning a Young Hollywood

Reports that the Department of Commerce is planning to establish a young Hollywood in Washington have no sub-

stantial foundation, we are assured by a man in the know in the capital city.

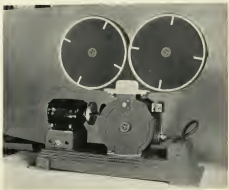
Frank Wilson, assistant to Secretary Rogers, has explained that the department is merely seeking to function as a good-will or industrial promotional agency within the department. Up to this time the plan is in an embryonic stage.

Nathan Golden, chief of the motion picture division of the department, has assured the industry there is no thought of attempting to establish a producing unit or a distributing organization that will in any way interfere with Hollywood. The only way in which a government agency would act to act would be in the establishment of a bureau designed to operate for the betterment of the business.

So far the plans are that the new organization is going to be set up within the department for the purpose of promoting industry through a coordinated motion picture program. It will act not as a sponsor but as a medium, an outlet, for industrial motion pictures.

For many years the Bureau of Mines, in the department of the Interior, has been participating in such a manner under the guidance of H. F. Leopold. Today the Bureau of Mines has a library of films that would interest Hollywood producers. However, all of the pictures are silent. The distribution of these industrial pictures is tremendous, their running life long and their effectiveness great.

Industry pays for the production of the pictures, which are supervised by officials of the Bureau of Mines to eliminate any obvious signs of direct advertising.



New DeVry 35mm. sound recorder of variable density type for use either in dubbing sound or to be used in connection with the DeVry 35mm. sound camera for double system recording.

Building Business in Five Years

(Continued from Page 54)

pack color printers, optical printers, developing machines and light testing machines.

The Fried continuous printers have been designed to fulfill every requirement in the quality and quantity production of positive prints. This is intended to apply to all printer work—the making of positive prints from negatives, both sound and picture—duplication of reversal films or positive prints—and the printing of 8mm. film from uncut negatives of 16mm. width.

Upon special order, Model DA or DB can be adapted exclusively for contact printing of 8mm. film of the narrow slit width.

The developing machines are available in two types: (1) Combination 35mm. and 16mm. machine; (2) Accommodating 16mm. width film exclusively.

These machines are available in various capacities designed to maintain uniformly high quality of output and satisfy the requirements of the commercial, industrial and studio laboratories. The smallest machine has a capacity of 800 feet an hour of positive film and the largest machine a capacity of several thousand feet an hour.

These models include simplified operation and control, complete versatility in all processing operations, compact construction with all features self-contained, ease of installation without any special provisions being made in the room, continuous development of any film length without cutting into shorter lengths and automatic operation and control.

Entirely Automatic

The machines are entirely automatic in operation. The film to be developed is placed upon a spindle at the loading end of the machine and attached to the threaded leader. Thereafter it is automatically carried through the successive stages of processing and through the drying chamber, from where it emerges completed. To the end of the last roll of film to be developed is attached the leader, so that when the machine is turned off it remains fully threaded.

These machines are completely motor driven. The operating units consist of Processing tank, etc.; motor drive unit and "air squeeze" compressor; controllable air conditioning unit and film drying chamber. The processing tank consists of a large developing compartment, a "stop" bath compartment, type of "fixing" compartments and large wash compartments.

This division of the chemical bath together with the use of air squeegee between the solution compartments assures the correct development with the least possibility of chemical precipitation due to "carry over" contamination. The squeegee directs a controlled downward shearing current of air against both sides of the film and thus return the solution which would otherwise be

carried over into the next tank. This device is similarly employed to remove the surplus water from the film before it enters the drying chamber.

Varies Heat and Humidity

Built into the drying chamber is the most modern and effective air conditioning unit, embodying a replaceable air filter, electrical fireproof heating units, and circulating exhaust fan. With this unit the operator can vary the heat and humidity of the drying compartment to conform with the developing time of the film being processed.

The combination 85mm. and 16mm. models are designed for complete versatility in all processing requirements, and are capable of handling both film sizes—in positive and in negative, sound and picture. In these machines the ability to make an immediate change from one type of film to another is accomplished without any mechanical alteration or inconvenience to the operator.

Two developing tanks are employed, one of which is used for the positive developer and the other for the negative. Each of these tanks always remain individually threaded with a leader, and the positive and negative film to be processed are in turn clipped to the corresponding leader.

The combination models are also provided with reservoir tanks for each developing solution and with special circulating pumps creating a continuous agitation and circulation of developer. Built in electric heating units and automatic thermostatic and thermometer stage control permit any desired elevated temperature to be accurately maintained. Electrical refrigeration is not included, but can be furnished if desired.

In that same five years the Fried Company also has developed for the use of clients a technical engineering service in the design and construction of any special equipment pertaining to the motion picture industry.

B & H Announces Reductions

A Bell & Howell bulletin announces an appreciable reduction in almost all of the more commonly used projection lamps. The price changes, effective December 1, cover all voltage 300 watt, 400 watt, 500 watt and 750 watt lamps, and the new 1200 watt 100 volt lamps as well.

The lower prices are an invitation to

MUST SACRIFICE DEBRIE SUPER PARVO

New Type Ultra Silent Camera—
No Biting Necessary

Has built-in motor, automatic clutches, oiler gun and sand-blasting device. Four 1000-hp magneto—42 mm, 50 mm and 75 mm, 75° lenses. De Lita weight 500 lb. set of front attachments. Leather covered carrying tray. It's the latest type equipment.

Camera Equipment Co.

1600 Broadway New York, NY
Tel. Circle 4-5060 Cable: Cineplex

every Bell & Howell projector owner to carry a spare lamp in his projector case so that even in the event of an unexpected lamp burnout "the show can go on."

The same bulletin also announces 20 per cent price reductions on all Bell & Howell Photoflood lamps.

Save Money—Buy Your Film By Mail
Hollywood 16mm. Outdoor

FILE includes 2 rolls
on this low price
New Release tape, micro-
film, audio, video, photo-
graphs, recordings, recordings,
movies, California papers 30-
hole and 100

\$1.50

per lot in
short list our
low handling
charge

HOLLYWOODLAND STUDIOS
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\$150

get into it
about the way
we're handling
things

2 REASONS



**For Good
Photography
and Sound**

No. 1

No. 1 The DeTroy Model A Steam chest (pictured here) came in shown above has produced more thousands of feet of motion pictures . . . is characterized by disintegrating camcorders on the variable cinema. Widely used by leading camcorders, exhibitors and general men, the "Model A" camcorder runs accurately, smoothly of detail, even under most adverse conditions. Send for descriptive literature, and see, by voice.

No. 2

No. 2 "Big Brother" of the Model A, the DeVry limousine owned by the owners, fully improved and modernized, has proved itself in the most exacting of tests. Fully illustrated 32-page folder gladly sent on request.



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CORPORATION

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New York • Chicago • Hollywood
Mfrs. of Complete Lines of Men, and
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MOVIOLA

FILM EDITING EQUIPMENT

Used in Every Major Studio
Illustrated Literature on request

MOVIOLA CO.

1451 Gordon St. Hollywood, Cal.

AMPRO ANNOUNCES TWO NEW MODEL PROJECTORS

THE Ampro Corporation, 2639 North Western Avenue, Chicago, announces two radically new and improved low-priced 16mm. sound-on-film projectors, basically new in design, which will provide quality sound projection at prices well within reach of a moderate budget.

With clear, natural sound and speech—music—all sound effects are faithfully reproduced. A radical adaptation of Ampro's standard sound mechanism assures sound reproduction of a quality found in higher priced Ampro models.

There is exceptionally brilliant showing on the screen because of 750-1000 watt illumination. The projector is compact and easy to operate as well as being all in one case and small and portable.

It weighs only 48 pounds, including 1600-foot reel, carrying case, accessories and cords. Operation is so quiet that

thing else is unnecessary. All controls are centralized on a single illuminated panel. Steel arm brackets are permanently attached and swiveled into position with no parts to set up and fasten. By reason of unsimplified threading only a few minutes are needed for setting up.

Folding Reflector Stand

The new Lafayette Twin-Lite stand just introduced by Wholesale Radio Service Company, Inc., 100 Sixth Avenue, New York, provides an effective means for mounting lamp reflectors of the clamp-on type. Extended to full height the tubular steel stand elevates the lamps to more than 6 feet.

It telescopes to any intermediate length and when folded measures only 21 inches in overall length. The reflectors clamp on to a 20½-inch cross-arm and either one or two lamps may be used as desired. The weight of the stand is slightly over one pound.

ASTRO LENSES

F1.8

F2.3



for sale by

Mitchell Camera Corporation

445 North Robertson Blvd.
West Hollywood, California



COOKE LENSES

Anticipating constant improvement in the resolving power of films . . . fully corrected for extended spectrum color processes . . . Cooke Lenses are truly long-stem investments. Focal lengths for every need. Descriptive literature on request.

**BELL & HOWELL
COMPANY**

Exclusive World Distributors of
Taylor-Union Color Cine Lenses
2648 Lacombe Avenue, Chicago
New York: 36 Rockefeller Plaza
Baltimore: 116 N. LaSalle Ave.
London: 12-14 Great Court St.



Ampro Model X for Industry and Y for Education.

Here Are TWO WAYS TO PRODUCE SOUND FILMS OF PROFESSIONAL QUALITY

Sound movies, known to be 100% more powerful than silent pictures, are produced on 16 mm. film in either of two ways:

THE SINGLE SYSTEM METHOD



Using the B-M Sound-Pro camera and associated electrical equipment, you make the sound track on the same negative with the picture. You get professional results in both picture and sound when you use the Sound-Pro.

THE DOUBLE SYSTEM METHOD



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NOTES FROM THE MOVIE CLUBS

Los Angeles 8mm. Club

The annual banquet and contest was held at the Victor Hugo Cafe, Beverly Hills, on December 10, and was attended by well over one hundred members and guests.

After the dinner the retiring president, C. G. Cornell, introduced the club officers for 1939: Alexander Leitch, president; A. Vincent Hague, vice-president; Volney P. Burdick, secretary; Ed Pyle, treasurer. The new president stated there was only one plank in the platform for '39, and that was "a 50-foot reel to be exhibited by each member every month."

Door prizes consisting of one roll of synchronous film each was won by Leon C. Sprague, Volney P. Burdick and James B. Ridge. This film is to be shot and then exhibited next at the February meeting.

Reports of the secretary and treasurer were read and the retiring officers' own song was rendered by the outgoing quartet: C. G. Cornell, president; Jack H. Taylor, vice-president; Ross B. Vogel, secretary; and C. William Wade, Jr., treasurer.

William Stall, A.S.C., then gave the results of the annual contest as decided by judges from the American Society of Cinematographers. Their findings were as follows:

Robert Teorey's film, "The Golf Widow," captured first prize, a Thalhammer tripod and pan head donated by Peterson's Camera Exchange, together with a cup given by the club.

M. R. Armstrong's picture of "The Innocent" won him second prize, a Bell & Howell title donated by the J. W. Robinson Company.

"Vida Paolina," by R. H. Clardy, won third prize, a \$25 merchandise order from Bell & Howell.

Fourth prize, a \$25 merchandise order donated by the Eastman Kodak Company, went to C. M. Drury for his picture "Tree Line."

Fifth prize, a Weston Janitor meter given by the Victor Animagraph Company, was awarded to "Hawman Review," by Robert Teorey.

"Camino de Ayer" (Roads of Yesterday), by J. K. Northrup, won sixth prize, an "Editor's" donated by Beemans, Inc.

A. B. Callow won seventh prize, a \$10 merchandise order from Winter, Inc.

Eighth prize, a gadget bag donated by the Morgan Camera Shop, went to John Walter for his picture "Vacation by Proxy."

T. C. McMurray's picture "Aeropho-

bia" brought him ninth prize, a fountain donated by the Los Angeles Camera Exchange.

"California Beautiful" by Leon Sprague, was awarded tenth prize, a two-year subscription to the American Cinematographer, donated by that magazine.

Eleventh prize, a year's subscription to "Home Movies" and a copy of "Color Filters and How to Use Them," both donated by VerHagen Publications, was won by R. H. Clardy's film "It Always Rains on Sunday."

The Horton Vacation Trophy was then awarded to G. Loren Fotic for his picture "High Sierra."

After a short intermission the pictures winning the first four prizes and the Horton Trophy winner were run, the meeting adjourning well after 12:00 o'clock.

VOLNEY P. BURDICK, Secretary

Minneapolis Cine Club

From the Cine Clubber, Rome A. Kiebeth, Editor

SPECIAL INTEREST MEETINGS

Time: The first Tuesday in each month. **Place:** Various members' homes (to be designated). **Purpose:** Revive the interesting in-between-meetings that featured activities last year and allow members with similar problems to meet for enlightenment. **Subjects:** Sound Accompaniment; Editing and Tinting, and Lighting.

Carroll Davidson is taking the sound class on the first round and will hold the meetings at his home theatre. Orval Sprague will conduct a class in editing and tinting, while Ralph Sprague will hold meetings on lighting at Ed Everett's home, while Bill goes over to Orval Sprague's for editing. Sam Gorn, ed. follows.

Registration for the various groups can be made at the meeting on December 20 when further details will be forthcoming. Classes will be limited to fifteen men each because of the limited facilities in the homes of the members. So get your registration in early.

Philadelphia Cinema Club

The Annual Dinner of the Philadelphia Cinema Club is scheduled for February 28 at McAllister's, where all our previous dinners have been held.

The musical part of the program for that evening has been arranged with the cooperation of the KTW Broadcast-

Station. In line with the club's policy of dedicating the activities of this year to the late Ripley W. Hughes, his films and particularly the ones he took on the trip West just preceding his death will be the highlights of that evening's entertainment.

It is the desire of the club to have the cooperation of the cinema clubs and camera clubs in the vicinity of Philadelphia for this gala occasion.

Arrangements for tickets can be made through the office of Horace Wilson, secretary, or from any of the committee members.

The night promises to be one of action rather than of speaking, and no principal guest speaker is being provided.

Between entertainment of a high type, a musical program, a fine dinner, and Mr. Hughes's films, it should be an occasion long to be remembered.

H. N. LEVENE,

Publishers Committee Chairman

Metropolitan Cine Club

The Metropolitan Cine Club of St. Paul, Minn., youngest of St. Paul's movie clubs, in November, held its election of officers for the ensuing year. The following were elected: President, John A. Bordenave; vice president, Carl G. Olson; treasurer-secretary, Harold E. Pappert.

G. R. Peterson was appointed chairman of the general committee.

The club is made up entirely of hobbiests, and, while better workmanship is the prime objective, sociability and good fellowship have not been neglected.

New Los Angeles Club

The new Photo Fellows Club has recently been organized at Woodbury College in Los Angeles. The object is to feature contests, special speakers, discussions and demonstrations on photography.

The new officers are: President, Don Franklin; secretary, Harry White; treasurer, Ed Lancaster, and sergeant-at-arms, Liliane Flaten.

La Casa Movie Makers of Alhambra

Mr. Parsonson of the Weston Meter Company gave an interesting talk on the use of the exposure meter manufactured by his company at the December meeting of La Casa Movie Makers of Alhambra, Calif.

The finals of the Finished Film contest were run off and the following members were chosen winners: First, "The Dowry of Daughter," an epic of the gay twenties; second, "The Tenderfoot," by Mr. Moore; a scenic film of Death Valley by Mr. Korne; third, "The Nugawapaw," a comic take-off on an African hunt by Mr. Oden.

As an extra event during January the club is scheduled to make a run to Santa Barbara by steamline train by the

Southern Pacific. Also arrangements have been made for an opportunity to make air shots of Southern California from plane by T. W. A.

R. A. BATTLE,

Publishers Chairman.

Agfa Lowers Cost of Fast Films

THE popularity which has been accorded the new high-speed Agfa films has made it possible to extend worthwhile savings to the consumer in the form of a number of important price reductions. These new lower prices, which were effective December 1, last, apply to the sizes noted below of Superpan Press roll film, Superpan and Superpan Press film packs, 35mm. Ultra-Speed Pan miniature-camera film and 35mm. Infra-Red miniature-camera film.

All Agfa panchromatic roll films, film packs and 35mm. miniature camera films now sell for the same amount in each size. The new prices are as follows:

Superpan Press Roll Films—A-8, 30 cents; B-2, 35 cents; PB-23, 35 cents; D-4, a new size, 40 cents; PD-16, 40 cents.

Superpan Film Packs—F-12, 34x44 in., \$1.25; F-41, 2x12 cm., \$1.40; F-23, 4x5 in., \$1.50; F-15, 7x7 in., \$2.50.

Superpan Press Film Packs—F-20, 6x9 cm., 75 cents; F-12, 34x44 in., \$1.25; F-41, 2x12 cm., \$1.40; F-23, 4x5 in., \$1.50.

35mm. Ultra-Speed Panchromatic Miniature-Camera Film—13-exposure darkroom loads, 35 cents; 36-exposure Leica cartridges, \$1; 36-exposure Contax spoils, \$1; 27 ft. notched rolls D.R.L., \$1.80; 35 ft. notched rolls D.R.L., \$3.50; 100 ft. unnotched rolls D.R.L., \$4.

35mm. Infra-Red Miniature-Camera Film—35-exposure darkroom loads, 40 cents; 36-exposure Leica cartridges, \$1.20; 36-exposure Contax spoils, \$1.20; 27 ft. notched rolls, D.R.L., \$2.15.

Parkers in South America

Harry and Harriette Parker, who left Los Angeles in October on a South American trip, passed Christmas greetings from off the west coast of Chile and state they will be in Buenos Aires for Christmas dinner. The Parkers, who belong to the family of American cinematographers, are taking their time en route and report they are shooting some good subjects. They are especially well equipped with photographic impediments, their outfit being planned as a result of experience gained in a world trip something less than two years ago. Mr. Parker is a member of the Los Angeles Cinema Club and Mrs. Parker is an officer in the Hollywood Women's Club.

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Documentary's Achievements Told by Schustack

The Documentary Film: History and Principles. By Edward H. Schustack. Publication No. 2 Film and Sprockets Society of City College of New York . . . Art Department November, 1938

HERE in a thirty-two-page pamphlet is packed a mass of facts and conclusions regarding the Documentary Film—something of which we have heard a little and of which we may be sure in the coming months and years we are to hear much. Although the booklet is copyrighted by Mr. Schustack perhaps we will be pardoned if we reprint the foreword he has written for it.

In a letter accompanying the pamphlet the author says "A most significant development in the modern film has been the rapid growth of the documentary film movement. The success of 'The River' last year was of nation-wide significance and helped put the word 'Documentary' in the vocabulary of every one in the film industry.

"Yet to my knowledge practically nothing really definitive of the documentary film has been published in America. My pamphlet is fortunate in having the distinction of priority over all other writings in the field in America."

Has Few Peers

But coming back to that foreword:

"The part that the documentary film is to play in America's future is only beginning to be realized. As a means of exciting social analysis the documentary has few peers. It can examine, weigh, evaluate and correlate all the complexities of our modern America and present to the millions of moviegoers not only an understanding of American traditions and ideals but also the means to encourage a most active participation in all phases of civic affairs.

"America has in the past flourished on a frank discussion of our national problems and I am happy to think that the documentary film can, and has, to a very measurable degree helped not only to pose many of the questions that face America but also help to in-

ducate their solution.

"Documentary has gotten off to a good start in the United States through not only the wealth of precedent that it may draw upon but also through the efforts of an earnest and talented group of documentalists, many of whom are mentioned in the section devoted to our national documentary school.

"In the future we can expect not only an exceedingly high documentary film standard but also a volume of production sufficient to make it a moving force in the lives of millions of people.

Deals with Actualities

"The appearance of a little booklet such as this, the first written in this country and the second in the world, has not been unattended by much laborious research and film viewing. Some measure of credit for its appearance must go to Edward and Edna Anhalt for their critical reading of the manuscript and many helpful suggestions, and also Louis Budeman, Cyrus Hariman and Vincent Buonarrossi of the

Film and Sprockets Society for aid in editing the manuscript."

Possibly we may be granted the further privilege of direct quotation in setting down the hundred-word "Introduction." Like its immediately preceding Foreword it is packed with interest:

"Within the rather broad confines of the definition of the documentary film there is ample room for the co-existence of such distant neighbors 'Nanook of the North' and 'The River.' Primarily the documentary film deals with actualities—people who live and events that occur in the world about us.

"From Robert Flaherty to Pare Lorentz is quite a jump in method and motivation, which jump encompasses the history of the documentary film from its beginnings through to the form in which we know it today. Documentary history may be said to have its begin-

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nings in the world of Robert Flaherty." For those upon whose shoulders sometimes is thrown the responsibility of deciding just what is and what is not a documentary film, like the many men and women on magazines and in amateur clubs placed in charge of contests and forced to decide what is what, here are nineteen words of priceless advice:

"Primarily the documentary film deals with actualities—people who live and events that occur in the world about us."

A couple of pages are devoted to the record of Flaherty, who began in 1929 his work in the realm of the documentary film—when commissioned by Revillon Freres, Paris fur house, to ex-

plore part of the Hudson Bay on a commercial venture. On his own responsibility Flaherty took along a motion picture camera. In spite of the great difficulties encountered he brought back "Nanook of the North," with the native Eskimos as his actors.

It was the story, though, that gripped the picturing world. It was the story of an Eskimo tribe's quest for existence, its continuous battle against the hostile forces of nature. The picture was a financial success. But the viewpoint of Flaherty and the conception of life in primitive countries entertained by studio authorities did not agree.

"Man of Aran"

From the South Seas Flaherty brought back "Mouana," but the simplicity of the natives' lives did not please the producers, who changed the theme of the tale, introducing according to the author "red-hot guitars and screaming chorus girls."

Two other efforts by Hollywood producers to employ the talents of Flaherty brought the inevitable clashes of viewpoint. Then we find Flaherty in Ireland, under commission by General-British Film "Man of Aran" (1933) is classified by the author as "perhaps the most outstanding example of the lyrical documentary method. It is the culmination of all of Flaherty's work from 'Nanook' on. The eternal conflict of Man and Nature—here of Man against the Sea, the ever-watchful enemy of Aran—is the essence of Flaherty's ideology."

Under the heading of "Naturalism and the Documentary" the author refers to "The Covered Wagon" as being just another Western film when the script came into the able hands of James Cruze. The theme of the subject is classified as without question one of epic dimensions.

"Granting that it was a film of fiction and that it was a re-enactment of past history, one must admit that the greatness of its theme transcended these factors and that in its relationship to national history it was documentary in its scope," declares the author.

Many Successors

The success of the picture was responsible for many followers, of which John Ford's "The Iron Horse" is the more notable of the group. Reference also is made to the work of Ernest Schoedsack and Merian Cooper in the production of "Grass," story of the migration of a half million men and women twice yearly in the search for grass on which to feed their horses and cattle.

Other chapters in the pamphlet are Continental Realism, Newwave and Documentary, Documentary in the U.S.S.R., Joris Ivens, British Documentary, Realist American Documentary, Developmental Documentary, Modern Documentary and The Future of the Documentary.

Another of the prominent documentalists is Walter Ruttmann, whose "Berlin" is somewhat hesitantly referred to. Ruttmann, too, it is added, may be well called one of the progenitors of the candid camera school of photography, for in the making of his picture he used a movie camera concealed in a specially designed moving van.

There is a wealth of interesting material which it is not possible to touch in this review. Much of that may be guessed at in the immediately preceding list of chapters. The use of documentary films in Russia and in England is described and also extended reference is made to a picture made for the Mexican Government—"The Wave," in 1935-6—and which was shown at the December dinner of the Pacific Geographic Society.

This pamphlet of Mr. Schuytack is worthy of wide distribution, for it will have large interest not alone for educators. It will concern and entertain and instruct all thoughtful persons who attend motion picture performances—and that is a sufficiently large slice of humanity to count in any corner of the world.

Practical Speeds of Films and Plates

Published by Photo Utilities, Inc., this tiny book of twenty-eight 2½ by 3½ inch pages has been issued as of December 1, 1938, at 25 cents a copy. It is a valuable addition to the indispensables carried by any photographer having use at times for films the rating of which he knows not. Comparisons of meter speeds are based on Photocrop both at home and abroad.

Chapters are devoted to "Speed Numbers of Kapsner-Mobers," "Motion Picture Cameras," "Practical Speed Values

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in "Photocrop Speed Numbers," to which the major part of the book is devoted, and "Color Processes."

"Just for Fun"

In these forty 5 by 7½ inch pages are five scripts published by Home Movie Screen Plays, 944 Little Building, Boston, at \$1. The stories are designed to be short and to employ but few props. Following each scene appears the number of feet required, presumably for 16mm, as no distinction is made.

The players in each script run from two to five. The titles and number of scenes, with total footage minus titles, are as follows: *Biscuits and Bullets*, 32 scenes, 85 feet; *Romance on Skis*, 36 scenes, 86 feet; *Minnie's Mirror Pie*, 43

scenes, 83 feet; *Gold in Them Them Hills*, 28 scenes, 64 feet; *Fisherman's Luck*, 46 scenes, 95 feet.

Profitable Photography No. 12

The Fomo Publishing Company of Canton, Ohio, issues "320 a Week with Car and Camera," a 43-page, 6 by 9 inch book, at 50 cents a copy, that contains many tips for the person thinking of going into business with a camera. The publication is No. 12 in a series of "Profitable Photography." With an introduction by H. Rosenter Snyder, the booklet is written by Paul Glenn Holt.

The writer recommends a camera of postcard size or very close to that. The

lens recommended is an anastigmat with a speed of f.8.8 or f.4.5. Either roll film, film packs or cut films are preferred, or in that order. For the more profitable clientele the writer recommends a neighborhood that is neither inhabited by the poorer in worldly goods nor for the more fortunate. The independents are the better prospects.

There are many suggestions as to how to handle tough prospects. In fact, a much attention is given to the actual problem of selling as to the technical job of getting out your customers' work. The book would seem to be stocked with sound advice.

The Fundamentals of Photography

The Eastman Kodak Company has issued its eighth edition of "The Fundamentals of Photography," by C. E. K. Mees, D. Sc. In the preface the author sets forth his belief that while a knowledge of the theory of photography is by no means essential for success in the making of pictures most photographers must have felt a curiosity as to the scientific foundations of the art and have wished to know more of the materials which they use and of the reactions which these materials undergo when exposed to light and when treated with the chemical baths by which the finished result is obtained.

The book has been written with the object of providing an elementary account of the theoretical foundations of photography, in language which can be followed by readers without any special kind of scientific training. Its aim is to interest photographers in the scientific side of their work and aid them in getting, through attention to the technical manipulation of their materials, the best result that can be obtained.

The book contains 125 pages and is illustrated. The chapter titles are Light and Vision, About Lenses, The Light Sensitive Materials Used in Photography, Exposure, Development, Structure of the Developed Image, Reproduction of Light and Shade in Photography, Printing, Finishing of the Negative, Orthochromatic Photography.

"Wellcome" Photographic Diary 1939

There have been so many changes in environs this year, particularly in regard to the speed and nature of film, that the annual issue of the "Wellcome" Photographic Exposure Calculator, Blackbook and Diary for 1939 will prove of particular interest to enthusiasts.

It is rightly regarded as an authoritative independent source of information not only on speed but on the other characteristics of practically all films and plates obtainable.

So much for the enthusiast, but the book is even more essential as a guide, philosopher and friend for the beginner.

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Photography of Colored Objects

The fourteenth revised edition of "Photography of Colored Objects" has been issued by Eastman. The book, which contains 184 pages, is a statement of the theory underlying the photography of colored objects and the application of that theory to those branches of practice which are of the most frequent occurrence.

Though purely scientific terms and photology are not employed, no attempt has been made to be entirely "geometrical." The Eastman products are definitely freely discussed, but it is stated the loss of generalization due to this procedure will be compensated by the advantage to be gained from definite information.

There are twelve chapters, five of which are devoted to filters.

Photographic Make-Up

Photographic Make-Up. By Wray Meltmar. Pitman Publishing Corporation. New York, Chicago. 218 pp. 60 illustrations. 39 tables. \$3.50.

Here is a book that will be welcomed in a constantly enlarging audience. It seems to be complete, to tell its story as it would be sought by those intent on making better motion pictures. And that goes whether the same be either amateur or professional. Primarily it undoubtedly has been written for the professional, but there is nothing in it that will not appeal to the amateur, or for that matter will not tend to improve the finished amateur product.

There are eight chapters, of which the first is devoted to "Make-Up and Its Use in Photography." This chapter is divided into four parts, Historical, Differences Between Stage and Panchromatic Make-Up, Color Composition and Photographic Reflection Powers of Panchromatic Make-Up, and Use of Panchromatic Make-Up in Photography.

The second chapter, divided into six parts, is devoted to "The Photographer's Use of Make-Up"; Chapter 3 is "Straight Make-Up for Women"; Chapter 4, "Corrective Make-Up and Facial Modeling"; Chapter 5, "Principles of Character Make-Up for Women—Use and Purpose"; Chapter 6, "Facial, Straight and Corrective Make-Up for Men"; Chap-

ter 7, "Principles of Character Make-Up for Men," and Chapter 8, "Direct Color Make-Up." Then there are chapters devoted to General Bibliography and Glossary.

All the illustrations in the book were made with Max Factor's panchromatic make-up, except those of women made with their own street make-up and so designated. All of the many photographs illustrating the make-up application steps were lighted as "flat" as possible to show the results of make-up—not lighting, posing or photographic technique.

The book is the result of fifteen years' experience in make-up in the theater, motion pictures and photographic studios and was born of the demands made by members of the Photographers' Association of America during the annual 1937 convention, at which the author gave three demonstrations and lectures on make-up for the camera.

The author has devoted the last five years exclusively to photography and make-up for the camera, black and white and direct color, lecturing and teaching the technique for stage, screen and street make-up.



LIGHTING NEWS *Extra*

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Latest portrait of DUARC, the exceptional technique under-stander champion, which today adds the excellent champion-ship to its records. The first twin champion twin set has in the short period since its introduction received a tremendous accolade in all studios. A third championship for DUARC seems in prospect, for it is receiving a most enthusiastic vote with Web Editor's "Dapper" as the year's outstanding silent performer.

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Having DUARC's famous dual carbon feed as the finest yet seen in the twin arc broadcast, experts from the Society for the Prevention of Cruelty to Arcs credited DUARC as the first twin to treat carbons properly.

"Anyone who knows anything about the care and feeding of arcs," said an S.P.C.A. spokesman, "knows that they demand individual treatment. The old-fashioned practice of keeping both arcs in a two-way yoked together like mules, forcing them to feed as a unit, is unjustifiable brutality. Often one arc will burn its carbon faster than its companion with the feed governed by electrical averages, one arc is starved and the other stuffed. No wonder the poor things flicker and chatter cold!"

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Comparative tests before scientific investigators and before practical technicians on major studio sets prove DUARC the one truly flickerless lamp of its kind, making it a two-way champion. There have been innumerable twin arcs since the movie started using lights, but never before any capable of winning and holding a twin championship as does DUARC.

Students of arcology attribute this record performance to the fact that DUARC alone has progressively abandoned out-moded methods and applied modern scientific design to modern problems. DUARC, they say, is a real champion—and like all champions, cannot be imitated.

Sherlock's "Nation Builders" Winner

(Continued from Page 17)

less continuous work on it in his spare time. He is a commercial artist, and due to his training he selected a subject he believed would be colorful and at the same time appealing to the sense of taste. He first wrote a brief story and then made a series of sketches of the action.

Next he made figures out of Jello boxes, a rubber ball answering for the head, with arms and legs of wire, covered with wooden beads. Next came the sets in which the dolls were to work,

which took two or three weeks of spare time for each setup.

When it is said about 5000 single frame exposures were made it is a simple matter to understand the tremendous amount of work involved. To give a better idea of the labor connected with the making of the cartoon it was necessary to step from the camera into the set and move several figures, wheels and cut-outs a fraction of an inch. Then the photographer would step back to the camera and shoot a single frame, then back to the set and repeat the same procedure.

The picture consists of 126 feet of animation and 26 feet of titles. The

latter were double exposed over appropriate backgrounds, designed to fit in with the action that followed the words.

Epes W. Sargent Passes

The death is announced in New York of Epes Wentworth Sargent, first reporter on Sime Silverman's Variety in 1905. The end came suddenly just after he had reached his home following his weekly session at the press, striding away Variety, with which publication again he was connected.

"Chico," as he was familiarly—and affectionately—known, had been in show business for over fifty years. He was one of the early critics of vaudeville or variety, as earlier it was known. On the Film Index and then on the Moving Picture World, with which the former was welded, he fathered and developed the exploitation and scenario departments. With the latter publication he wrote "Technique of the Photoplay," which went through many editions. With the passing of the World he rejoined Variety, where among other things he wrote a special weekly department on exploitation.

In his failing health during the last few years he had declined efforts of his fellows on Variety to take off his shoulders some of the work he was carrying. He had kept up his usual routine, even to maintaining his regular contribution to Movie Makers, his article entitled "Hiring Type" appearing in the December issue.

The editor of this paper was associated with him on the Moving Picture World for over eight years. There he had learned to admire the man for his many qualities and his rare ability for doing an abundance of work. Twenty years ago his output was limited only by his manual dexterity at the typewriter—and that was plenty. He rarely stopped even for a moment to think of what he would write next.

As a rule before his fingers had ceased to run the keys his alert mind already was far ahead of them.

"Chico" was born in Nazarene, in the Bahamas, where his father was United States Consul, sixty-six years ago. He is survived by a son, Epes Wentworth Sargent, Junior, in radio in Chicago, and by his widow, the daughter of the famed Carrie Nation.

B & H Extends 16mm. Lenses

Closely following the recent announcement of its new F1.5 Extol lens for 16mm. cameras, Bell & Howell reveals that the Extol F1.5 is but the forerunner of a complete line of new 16mm. special purpose lenses now ready for the trail.

It is claimed for these lenses that while offered at an attractively low price they are equalled only by the Taylor-Hobson lenses regularly furnished as standard equipment with Bell & Howell motion picture cameras.

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American Motion Pictures Popular in British Malaya

The large majority of motion picture films shown in British Malaya are produced in the United States, and have become extremely popular with Asiatic audiences because of their action, according to a report to the Department of Commerce from the office of the American Trade Commissioner at Singapore.

British producers are the only competitors that distribute films that are in the same category as American, but the outlet for British films is largely confined to cities where live the majority of Europeans, who are British. Indirect competitors of American films are Indian and Chinese films which play to a field of their own and do not directly clash with American films, the report stated.

Distributors estimate that between 65 and 70 percent of the films shown in British Malaya are American, with an annual earned revenue of approximately \$566,666, according to the report.

Stills from 8mm. Film

(Continued from Page 22)

hang between the forward upright and carrier (Fig. 1).

My only concern in the construction of this gadget was the amount of light to be admitted by the shutter. The first shutter I prepared had an aperture about an inch across. To obtain an idea on the amount of light to be admitted to normally expose my negative I cut a piece of film from a roll and slipped it into the holder. I then exposed a scene by rapidly sliding the shutter across the opening.

Developing the negative I found the process far too rapid and made a new shutter with an opening just a quarter of an inch in width. Feeling this was just about right I loaded a full roll of film in the device and exposed eight scenes.

This roll was handled in a camera store for processing and was developed the same as any other camera film. I found upon receipt of the processed film and prints that my negatives were of normal contrast, which assured me that my second shutter opening was correct.

Working in Darkness

As I now have the enlarger unit adequately sealed from extraneous light to operate in daylight, so I used an orthochromatic film (Verichrome or Panchrome) in a darkroom lighted by a ruby lamp.

The latter made working conditions very satisfactory, while the cardboard shields installed on the layout very adequately protected the film from light coming from the projector lamphouse.

Before loading with film I placed a piece of cardboard of the estimated thickness of the film and backing in the

holder and carefully focused my projector lens. Once focussed, no further handling of the lens is necessary throughout the exposures.

After exposing each scene I turned off the projector lamp and by the light of the ruby lamp I opened the film carrier and wound the film to the next unexposed section, using the numerals on the paper backing as a guide.

Once the contraption is constructed it is a very simple matter to produce movie film enlargements. Select your scenes beforehand, and if they are on a reel mark the location of the desired

scenes with a bit of thread or scotch tape. Then snap the reel in place on the projector and wind up on the take-up reel until the desired frame is in place.

Then snap on the projector, slide the shutter rapidly across for the exposure, snap off the projector lamp and wind your film spool for the next exposure. In this manner a roll can be exposed in a very few minutes.

The chief delight in exposing on a roll of film in the manner outlined is that the neighborhood processor can develop and print the film for you if you lack the facilities to do this job yourself.



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December 22, 1938

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